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Deduction In News Print Thickness Allowed

Bureau Advises Collector of Customs at New York City That 5 Per Cent Deduction Should Be Made From Standard Thickness When Samples Are Taken From or Near Surface of Rolls—Opinion Expressed That Surface Layers Absorb and Retain Moisture—Decision Endorsed by Secretary of Treasury Mellon

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 20, 1932.—An allowance of 5 per cent deduction in news print thickness in connection with the Treasury Department's standard news print definition of .004 of an inch in thickness is to be allowed imported paper under an order which F. X. A. Eble, Commissioner of Customs, has sent to the Collector of Customs at New York City and which has been approved by Secretary Mellon. Attention is also called by the Commissioner that it will not be necessary for samples to be taken of all shipments sent to newspapers and in order not to damage the paper suggestion is made that samples be taken near the surface. Following is the complete communication on this subject:

Appraiser Requests Ruling

"The Bureau is in receipt of a letter from the Appraiser of Merchandise at your port, in regard to the classification of printing paper claimed to be entitled to free entry as standard news print, notwithstanding it exceeds .004 of an inch in thickness, the Department having ruled in T. D. 44317 that paper otherwise falling within the definition in T. D. 40996 was excluded therefrom if exceeding .004 of an inch in thickness.

"It has been represented to the Bureau that paper is being assessed with duty because it exceeds the thickness mentioned, whereas the paper actually is not in excess of .004 of an inch in thickness, and the Appraiser in reporting upon this phase of the question states that many complaints have been made that rolls of paper are damaged in taking samples for test if the rolls were penetrated to any extent in securing samples, and he refers to the claim of an importer that the test did not correctly represent the thickness of the paper in the roll.

Result of Tests

"The Appraiser states that a chemist from his laboratory and the examiner of paper visited a newspaper office and made tests of twenty rolls of paper out of importation; that the tests were made in the manner described by the Electrical Testing Laboratories and the Appraiser submitted with his letter the results of the test.

"The Appraiser invites attention to the fact that there was an appreciable difference between the result of the first test made at the surface of the roll and the subsequent tests made respectively at 4, 8 and 12 inches from the surface, the latter test showing the paper to be under .004 of an inch in thickness.

"The explanation of the difference between the thickness of the paper on the outside of the rolls and lower down in the rolls is that the surface layers absorb and retain moisture, and the Appraiser expresses the opinion that this is probably true and tests made of the outer layers are not a true index of the thickness of the paper in the roll.

Tolerance From Dividing Line Suggested

"In view of the forgoing, the Appraiser suggests the advisibility of permitting a tolerance from the dividing line fixed by the Bureau in determining the classification of this paper.

"The Bureau has given this matter careful consideration and believes that the conclusion reached in T. D. 44317, based upon the investigation made prior thereto, that paper in excess of .004 of an inch in thickness is excluded from classification as standard news print paper is correct. The tests made by your office show that, due to atmospheric conditions, the outer layers of paper in a roll are thicker than the average thickness of the paper in the roll. The Bureau is of the opinion, therefore, that when samples are taken from the outer layers, and this would seem to be advisable, so that there shall be as little damage to the roll of paper as possible, allowance should be made as recommended by you. Accordingly, where samples are taken from or near the surface of the rolls, 5 per cent deduction should be made from the thickness shown.

Samples From All Importations Unnecessary

"In this connection, as was suggested in the Department's ruling, T. D. 40996, the Bureau does not deem it necessary that samples shall be taken from every importation of this paper for the purpose of determining its thickness when consigned to newspapers, agents of newspapers, or those dealers whose business it is to furnish such paper to newspapers."

Wisconsin Paper Industry In Sound Position

According to U. S. Government's Biennial Census of Manufacturers, Paper Production Has Increased In Value of Products to Approximately $100,000,000 Per Annum — Annual Value of Pulp and Pulpwood Products Is $36,058,146

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., January 18, 1932—Paper production in Wisconsin has increased in value of products to nearly $100,000,000 annually, according to a check up made recently from figures obtained at Washington, D. C., in the biennial census of manufactures. It is shown that 1,078 salaried officers and 9,741 wage earners are employed. Salaries paid annually amounted to $3,387,312, and wages $12,370,195. The actual value of the paper turned out by the mills was $93,400,631.

In the pulp and pulp-wood industry, the annual value of the products for Wisconsin is $36,058,146. There were 228 officers receiving $652,971 in salaries, and 3,446 workers with wages of $4,355,021.

Further items of the census were: Paper goods, not classified elsewhere, 212 salaried officers and 935 workers; pays $517,398 in salaries and $952,955 in wages; value of products $8,188,460. Boxes, paper, not elsewhere classified, 310 salaried officers, 1,865 wage earners; total pay roll of about $2,800,000; products valued at $10,995,936.

Consolidated Power Dam Improvements

Following upon completion of improvements to its power dam on the Wisconsin River at Stevens Point, Wis., the Consolidated Water Power and Paper Company has now made formal application to the state public service commission for permission to raise the level of the dam two feet and hold additional water in reserve. A hearing has been ordered for February 4 at the state capitol at Madison where both sides will be heard in case any objections have arisen. The company obtained permission from the city of Stevens Point recently to flood a portion of a city park in return for improvements made at the park at the expense of the company. The river banks have been raised, railroad tracks relocated and the dam itself built up to retain a greater volume in the storage pond. The changes will give the company a material increase in power supply and a more uniform flowage throughout the year.

DuPonts Aid Paper Chemistry Institute

Another valuable gift to the Institute of Paper Chemistry, graduate school of Lawrence College, Appleton, Wis., comes from E. I. duPont de Nemours Company in the form of a graduate research fellowship of $1,000. The choice of the student for the award has not been made. This is the twenty-third college or university to receive such aid from the duPonts, such gifts usually being made to institutions especially fitted to carry on research in chemistry.

In addition, the DuPont company, has opened a branch research laboratory at the Lawrence Institute to carry on co-operative research with the institute. Dr. Samuel Lehner, one of the regular research chemists from Wilmington, Del., and a native of Wisconsin, will head the project. He is investigating the cooking of colored rag stocks and is being assisted by Steven Kukolich, a student.

Another co-operative research arrangement has been made by Rohn & Haas Company, Philadelphia, manufacturers of synthetic tanning agents, artificial resins and a variety of other products. The company will conduct experiments to learn their application to the paper industry. Dr. I. C. Sommerville, who received his doctor's degree from the University of Edinburgh, will be the first of several company representatives to study at the institute.

It will be possible to manufacture paper at the institute through the installation of an electric high pressure boiler presented by the General Electric Company. The institute already possesses digesters, wood chipper, cookers and other equipment. The new boiler will generate 200-pound steam pressure. Recent installations also include a machine for measuring the amount of chlorine in experimental bleaching, and a machine for making paper by hand.

Banks Honor Paper Manufacturers

Paper manufacturers were again a popular choice for directorates of banks or for officers at the annual meetings held this month. The most important honor was that given S. F. Shattuck, vice president of the Kimberly-Clark Corporation, Neenah, Wis. He was elected president of the National Manufacturers Bank, of Neenah, succeeding W. G. Brown, who has been made chairman of the board of directors. Mr. Shattuck has been a director since 1903. A. C. Gilbert, president of the Gilbert Paper Company, a director since 1926, was made vice president of the bank. The bank is celebrating its fiftieth anniversay, having been founded by Hirman Smith and F. C. Shattuck, pioneer paper manufacturers, and others.

F. J. Sensenbrenner, president of the Kimberly-Clark Corporation, was re-elected vice president of the First National Bank, Appleton, Wis. Others on the board of directors are: Charles S. Boyd, president, Appleton Coated Paper Company; G. E. Buchanan, secretary, Appleton Wire Works; F. J. Harwood, president Appleton Woolen Mills; L. J. Marshall, president Marshall Paper Company; Judson G. Rosebush, president, Patten Paper Company, Ltd.; William C. Wing, president Fox River Paper Company, and C. B. Clark, president, Riverside Paper Corporation. R. S. Powell continues as president of the bank.

At the First National Bank, Neenah, Wis., C. A. Babcock, president of the Wisconsin River Paper and Pulp Company, was elected vice president. Other paper mill men elected on the board are: J. N. Bergstrom, president, Bergstrom Paper Company; D. K. Brown, vice president, Neenah Paper Company; C. B. Clark, president, Riverside Paper Corporation; James C. Kimberly, president, Neenah Paper Company; F. J. Sensenbrenner, president, Kimberly-Clark Corporation; Ernest Mahler, vice president, Kimberly-Clark Corporation.

Judson G. Rosebush was also elected a director of the Farmers and Merchants Bank, Kaukauna, Wis., where one of the Patten Paper Company's mills is located.

News of the Industry

One result of the co-operation between paper mills and the Wisconsin Board of Health has been the removal of pollution of kraft mills. The board has found that the lime sludge effluent of pulp mills is no longer found in streams, due to its disposal in other ways. The board also reports that sulphite and sulphate wastes still continue

to be a major part of the pollution of Wisconsin streams and lakes and urges a continuance of the co-operative efforts of the two bodies to find a remedy.

The Little Rapids Pulp Company, Little Rapids, Wis., is the victor in a decision of the Wisconsin Supreme Court reversing a verdict of the Lower Court. Damages of $6,835.33 has been awarded to John Kline, pulpwood dealer of Kaukauna, Wis., who claimed that he was to receive orders for pulpwood at market rates plus a commission of 40 cents a cord in return for the purchase of 50 shares of common stock and 15 of preferred stock in the company. The higher court held there was no agreement between Kline and D. L. Thompson, president of the firm, and set aside the jury verdict.

Unable to obtain a compromise settlement with the city of Park Falls, Wis., the Flambeau Paper Company, of that city, expects to carry its case to the State Supreme Court relative to a refund of $28,000 in taxes sought from the city because of over-assessment. A proposal was submitted to the council by Guy Waldo, vice president of the company, but it was rejected.

W. T. Schmitt Goes With Bryant Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich, January 18, 1932—W. T. Schmitt, was Friday afternoon elected a director, vice president and general manager of the Bryant Paper Company, at a meeting of the board of directors. At the same time W. B. Millham was named president and Joseph E. Brown, vice president. Felix Pagenstecner performed his last official duty in connection with Bryant in resigning from the directorate, thus making room for Mr. Schmitt on the board.

The board of directors acted unanimously in selecting Mr. Schmitt to fill the managerial position made vacant by the resignation of Pagenstecher and acceptance of the presidency of the Hawley Pulp and Paper Company, of Oregon City, Ore.

Mr. Schmitt came to Kalamazoo seven months ago and has during the intervening period been active in an advisory capacity in the operation of the Bryant Paper Company. Many years he was with the American Writing Paper Company in an executive capacity. For the past 11 years he has been prominently identified with the automobile industry as comptroller of the Chrysler Corporation and secretary-treasurer of the Murray Corporation of America. During the past year he has devoted his attention to the paper industry.

When Felix Pagenstecher decided to quit the Bryant, he recommended Mr. Schmitt as his successor.

Superintendents Meet at Holyoke

HOLYOKE, Mass., January 19, 1932—The January meeting of the Connecticut Valley Division of the Paper and Pulp Mill Superintendents Association was held Saturday night at the Hotel Nonotuck preceded by a dinner. A. B. C. Drew of New Bedford presided and following the dinner there were two speakers. After each address there was a question box conducted by John Kennedy of this city.

The first speaker was C. H. Kent of New York City who talked on the Delthirna sizing process. He brought with him a model and demonstrated the process before the gathering. The system is comparatively new.

The second speaker was F. C. Farnsworth of the Farnsworth Company on heat reclamation in the paper mills. His talk was illustrated with lantern slides.

The committee in charge consisted of Claude H. Smith of this city, chairman; Richard Davitt of Lee, Forbes Wood of Montville, Conn. and John J. White of Holyoke.

F. M. Hodge Resigns

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., January 18, 1932—Frederick M. Hodge, for over 35 years president of the Kalamazoo Paper Company, tendered his resignation and it was accepted at the annual meeting of stockholders and directors, held recently. A. E. Curtenius, who has been with the Kalamazoo Paper Company since 1899 and for many years secretary-treasurer of the concern, was advanced to the position of presidency. Mr. Hodge continues on the board of directors.

Another action taken by the board was to accept the resignation of Dwight R. Curtenius as a director and at the same time reduced the personnel of the board from eight to seven. Curtenius is now identified with the Allied Paper Mills in the capacity of general manager.

The advancement of A. E. Curtenius to the presidency, necessitated the election of a secretary and treasurer. George T. Jubb was named secretary and Bert H. Cooper, treasurer. Both these men have been with the Kalamazoo Paper Company for many years and are thoroughly familiar with the company's policies and methods. Jubb has been active in sales and Cooper in the purchasing department.

Dan F. Altland, of Detroit, was re-elected vice president. The directorate consists of F. M. Hodge, D. F. Altland, A. E. Curtenius, C. S. Campbell, A. B. Connable, C. H. Kleinstuck and W. K. Wallace.

Reports for 1931 showed that despite the depression, the year has been generally satisfactory. The mills have operated close to capacity the past 12 months. During 1931 there was an expenditure of $175,000 for improvements and new equipment. The latter item includes a new Rice, Barton and Fales fourdrinier paper machine.

The passing of F. M. Hodge from active management of the Kalamazoo Paper Company marks the retirement of one of the most highly regarded men in the industry anywhere. He has been with the concern for approximately 40 years, joining under the presidency of the late Samuel A. Gibson, the man who made papermaking in the Kalamazoo valley a reality and an industry of the first importance.

With the death of Mr. Gibson, F. M. Hodge was elected president. The Kalamazoo Paper Company mills were then located south of the city and on the site now occupied by the Monarch division of the Allied Paper Mills. The paid in capital was $80,000 and the plant operated two small machines.

The first expansion step consisted in the purchase of the plant of the defunct Wolverine Paper Company, a mill that is still operating satisfactorily. Then followed the erection of a two machine mill and the acquisition of the Riverview Coated Paper Company and the building of a second coating plant, until now the daily output is in excess of 150 tons, while the paid in capital is $3,280,000. There are no bonds outstanding. There are close to 1,000 employes in the various units.

Finch, Pruyn & Co. Elect Officers

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., January 18, 1932.—The annual meeting of stockholders of Finch, Pruyn & Co. was held this week at which directors and officers for the year were chosen. Officers elected included the following: Maurice Hoopes, president; L. F. Hyde, vice president; Fred B. Chapman, treasurer; George N. Ostrander, secretary. The officers with Louis P. Brown and Byron J. Lapham comprise the board of directors.

Gigantic Scope of Proposed Paper Merger

Sir Herbert Holt, Former Chairman of Canada Power & Paper Corp., Foreshadows Consolidation of Whole News Print Industry in Canada, East of Rocky Mountains—Unusual Weather Seriously Interfering With Lumbering Operations

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., January 18, 1932.—Nothing less than the practical merger of the whole news print industry in Canada east of the Rocky Mountains was foreshadowed by Sir Herbert Holt at the annual meeting of the Royal Bank of Canada a few days ago. Sir Herbert, who is president of the bank, and was chairman of the former Canada Power and Paper Corporation, made this statement at the meeting:

"The pulp and paper industry has operated at a lower percentage in relation to capacity than at any time in the past. Plans are now under consideration for the complete integration of the Canadian news print industry east of the Rocky Mountains. This is a constructive development, difficult of accomplishment, but highly desirable if Canada is to continue to maintain the supremacy which should be hers on account of the tremendous advantages she enjoys from her great natural resources of power and timber lands."

Logging Delayed In Eastern Canada

Woods operations of paper and lumber companies have been seriously interfered with throughout Eastern Canada this winter by unprecedentedly mild weather and consequent lack of snow. So far the snowfall has only amounted to 8 or 10 inches, and except in exceptionally sheltered positions all this snow disappeared last week, leaving the entire countryside bare—a condition of things unprecedented at this time of the year within living memory. The River St. Lawrence, usually frozen over at this time of the year, is open from Montreal to the sea, and steamships on the Upper Lakes that are usually closed at this date. Ice bridges on rivers and lakes north, east and west of Montreal have all been giving way and snow roads have disappeared, thus bringing to a standstill many of the activities connected with logging. All sorts of explanations have been put forward to account for this unusual weather, and the general view seems to be that the Gulf Stream must have been diverted to a more northerly course by results of the great earthquake off the Newfoundland coast a couple of years ago, thus driving the cold Arctic Current farther out to sea and thereby modifying the climate. Local meteorologists, however, say that there is still time for plenty of real wintry weather and that it will not be long before there will be plenty of snow to facilitate lumbering operations.

Inventory of Quebec's Forests

Inventory of the forest resources of Quebec, recommendations for preparation, measurement and trade-marking of lumber and for seeking new markets are in the offing, with the forest resources commission due to report to the Legislature this week.

The commission was named by the Hon. Honore Mercier, Minister of Lands and Forests, to study Quebec's resources, the resources of Ontario and the Maritimes which are competitors with Quebec, and steps to be taken to stimulate the lumber industry in this province.

Scandinavian Competition on Pacific Coast

Scandinavian news print has become a disturbing factor on the Pacific Coast, where it has been offering at $41 per ton. From Vancouver it is stated, however, that not enough has yet been delivered to affect contracts held by Canadians and that Scanadinavian producers have not been able to deliver news print of a quality high enough to compete seriously with Canadian paper.

Meanwhile the Powell River Company reports the outlook for 1932 as fairly encouraging. The company has averaged five days a week of operation throughout the past year.

At the beginning of 1931 the company's number 7 machine was cut in, while the Lois River power development began to supply power for production to the Powell River plant at the same time.

It is stated that the company also benefited during 1931 through new market connections which it had made in the United States in the latter part of 1930.

Big Increase in Water Power Development

Returns issued by the Dominion Government show that new water power developments totalling 546,650 h.p. were installed during 1931, bringing the total installation in the Dominion up to 6,660,000 h.p. Construction also was advanced on a number of undertakings which within the next couple of years will add more than 1,400,000 h.p. to the Dominion's water power developments. Quebec took the lead in new installations totalling 382,000 h.p., while the figures in other provinces were: British Columbia, 25,200 h.p.; Manitoba, 79,000 h.p.; Ontario, 58,200 h.p.; and Nova Scotia, 1,650 h.p.

Urges Production Control

The executive board of the International Brotherhood of Papermakers has issued a statement calling upon the paper manufacturers to co-operate amongst themselves in conceiving some plan to control production. The organization asks for production control and its resolution reads "so that the selling price of paper will not fall below the cost of production, bringing more chaos to the industry and more misery to the workers." The resolution concludes with the declaration that it is possible that the industry may encounter even more unfavorable conditions this year because of a reduction in the price of news print paper as well as decreases in the prices of other grades. The organization has also voted to continue its organization work in order to increase its membership and organizers will continue their efforts in the various mill towns in this country and Canada.

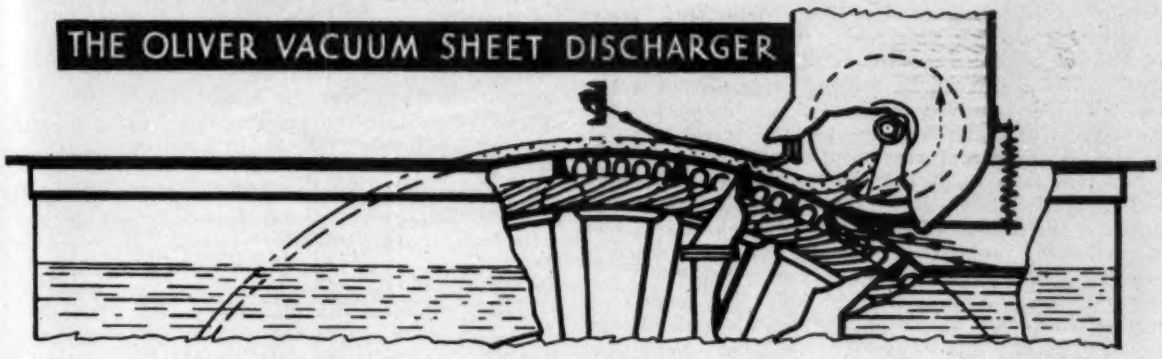
Gets Patent on Pulp Screen

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., January 18, 1932.—Harold D. Wells, of this city, has been granted a patent on a pulp screen following application made in December, 1929. A number of claims for new ideas were also granted the inventor. In describing the invention the patent department at Washington illustrates it as follows: "In a machine of the type described, the combination of a fixed continuous screen through which the pulp flows inwardly, and centrifugal means rotatable around the screen for effecting pulp separation around said screen."

INCREASES DECKER CAPACITY

32% by using



THE OLIVER VACUUM SHEET DISCHARGER which was installed in the summer of 1931 on a standard Oliver Ground-Wood Decker in the plant of the Blandin Paper Company, Grand Rapids, Minn., has made striking improvements in the operation of this machine.

From 28 to 37 tons

When using couch roll discharge, capacity was 28 tons of ground-wood per 24 hours. With the Vacuum Discharger it jumped to 37 tons, at which new high point it has remained.

Greatly Improved Clarity

At the same time that this large increase in decker-capacity was secured, fibre loss was also decreased by 50%. An increase of 32% in capacity and an improvement of 50% in clarity! And all through the adoption of this simple but highly efficient Sheet Discharger.

Less Attention Required

With the Oliver Vacuum Sheet Discharger the sheet is removed solely by vacuum. There is no mechanical action whatever as in other sheet-removal methods. *THE VACUUM SIMPLY LIFTS THE SHEET AWAY FROM THE WIRE-COVER.*

There is always complete discharge of the sheet at high drum speed, and a constantly clean "wire"; there are also the added benefits of less attention required and longer life for the wire-cover. The Oliver Vacuum Sheet Discharger increases the life of the wire-cover over any other type of discharger.

Applicable to Any Filter

The Oliver Vacuum Sheet Discharger is easily applied to ANY continuous vacuum-drum type decker. The new economy that it offers fully warrants your thoughtful consideration. Ask us for detailed information.

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Chicago Paper Market Conditions Improving

Stronger Position of Kraft Wrapping Paper Considered Indication of All Around Betterment In Near Future—Fine Papers, Bonds, Ledgers, Books, Covers, Etc., Continue Fairly Active—Paper Board Quiet, With Volume Low and Prices Stable

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., January 16, 1932—With kraft prices strengthening, in some cases going from $2.62½ to $3.25, and with bag prices reported to be following this improved trend, at least a part of the Chicago paper market was in a more or less improved frame of mind this week. The improvement in kraft, following a long interval of stability near previous lows, was hoped to be a real indication of bettered demand all the way around. Fine papers, bonds, ledgers, books, covers, etc., continued to show improvement during the past week, although the sudden spurt following the first of the year was not so much in evidence.

Ground woods continued fairly dull. The news print situation is relatively quiet and a favorable volume of business on a contract basis is expected for 1932. Newspaper advertising lineage has not yet showed any appreciable spurt and paper men are watching, with a great deal of interest, the friendly price war between advertising agencies and newspaper executives and publishers. A general price reduction on newspaper advertising rates would materially speed up advertising use, in the opinion of many observers. The board market is quiet, with volume low and prices "stable." In the waste paper market no material changes are noted.

Chicago Paper Merchants Discuss Problems

The Chicago Paper Association held one of its most interesting and productive meetings on Tuesday evening, January 12, at the Bismarck Hotel. With Earl Beier, president of the association, presiding, the meeting became a round table discussion at which representatives of every house present were urged to take part. Some of the coarse paper merchants, including Frank Peck, of the Hanchett Paper Company, and Leo S. Altholz, of Inlander-Steindler, gave interesting resmués of the activity of their respective firms during the past year. They drew from these actual experiences to point out the characteristics and problems of 1931, a novel and effective way of pointing out the problems of the entire association and its members.

One of the most constructive programs suggested, which seems certain to be adopted, was that of permitting representatives of industrial paper firms and retail paper firms to meet at separate noon luncheon conference, there to thresh out all problems particularly pertinent to their type of selling. In this way the industrial and retail groups could formulate general programs for presentation at the regular and general twice-a-month meetings. At the present time the industrial and retail groups alternate their programs and the new method of developing general programs prior to the regular evening discussions would in no way interfere. In this way, says M. A. McNulty, public relations chairman, matters of warehouse cost, cartage cost, sales expense and other cost items which are being lost sight of in stringent times would be called back to their proper position of importance. Coarse paper firms at the meeting reported, for the most part, that they had made no money in 1931 but, however, didn't lose any. The ability of these firms to at least maintain their ground was considered favorable. The recent increase in wrapping kraft prices also helped to create optimism at the meeting.

Paperboard Convention Program

The Paperboard Industries Association will run its next regular meeting from the home office in Chicago, with prospects good for an excellent attendance, reports from the headquarters at 608 South Dearborn street indicate. The January meetings get under way on January 19 and extend through until noon January 21, adjourning at that time so that members may leave Chicago on the early afternoon trains, Thursday, January 21. Notices have been mailed to all committee members relative to the gatherings of the standing and executive committees on Tuesday, January 19. The entire series of meetings will be held at the Congress, says H. S. Adler, secretary, with the three groups Folding Box, Paperboard and Container, meeting with their respective members on Wednesday, January 20. The important group session will be held the morning of Thursday, January 21.

Further information indicates that special attention will be given the round table conference for the Container Group sales executives, which will begin with a noon luncheon on January 20. Members of the Container group have already indicated their unusual interest in this relatively new arrangement and the conference gives promise of being unusually productive as the sales executives openly discuss problems vitally affecting their trade. Being the first meeting of the new year, the entire January program will probably be of unusual importance and will give a line on the varied problems which the industry as a whole must solve in 1932.

Paper Salesmen's Activities

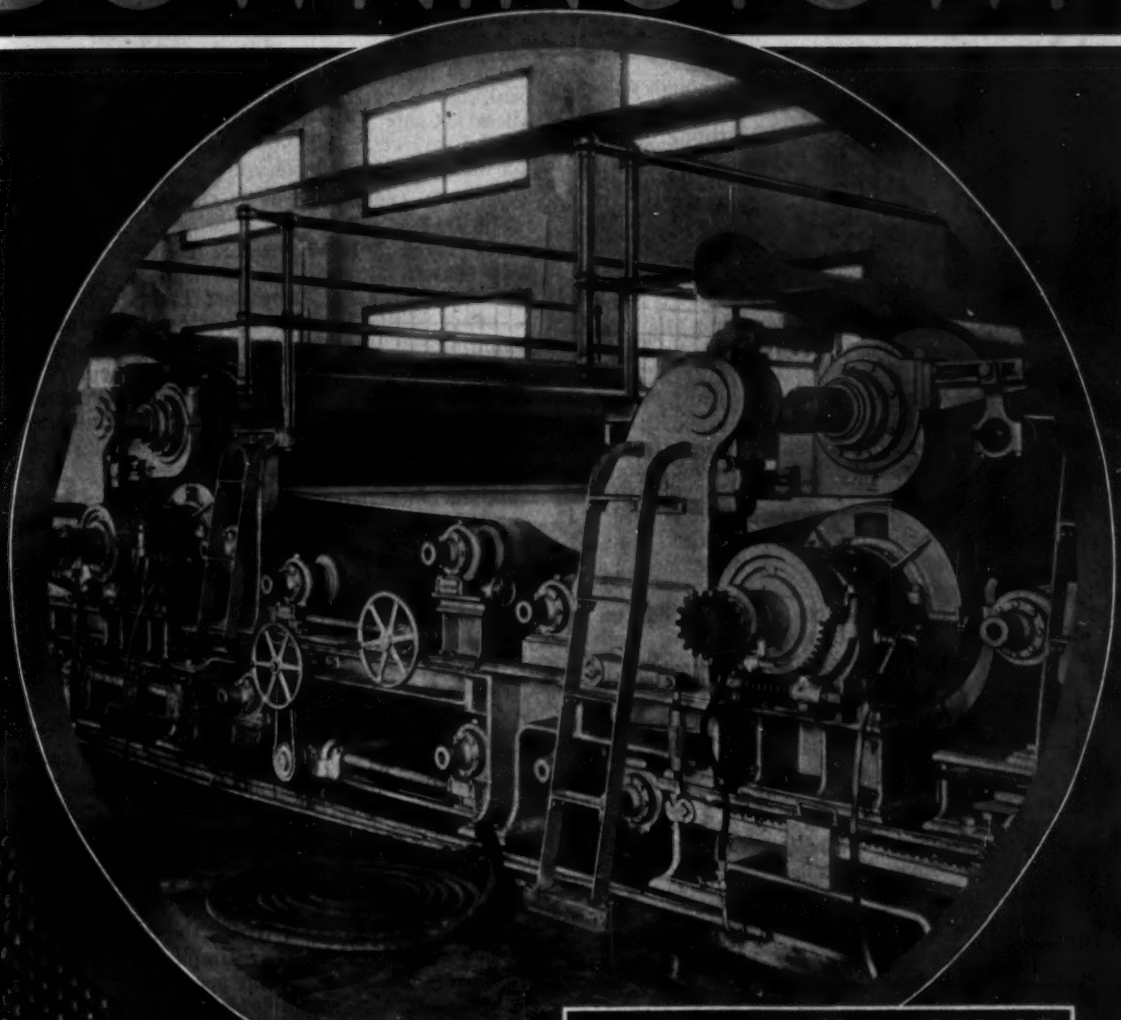
Jim Coy, sales manager here of the Flambeau Paper Company, has been appointed by Creighton Whiting, vice president of the Middle West Division of the Salesmen's Association of the Paper Industry, as chairman of the Transportation Committee, which will make determined efforts to drum up local attendance to the annual meeting in New York City, the week of February 15. Last year around 60 or 70 paper men from Chicago and surrounding territory boarded special cars for the eastern trips. Mr. Coy hopes for at least that many this year.

The Middle West Division of the Salesmen's Association will hear J. E. Bryan, traffic manager of the Wisconsin Paper and Pulp Manufacturers Traffic Association at the regular meeting on Monday, January 18. Mr. Bryan will discuss the effects of present rail rate changes and will answer all questions.

Hurja Ad Agency Resumes Old Name

Hurja, Chase & Hooker Advertising Agency has changed its corporate name to Hurja-Johnson-Huwen, Inc., the original name under which the agency was founded more than a decade ago. A. O. Hurja, president and treasurer, has been actively servicing the advertising of many of the leading organizations in the paper industry. F. J. Huwen, vice president, has returned to the agency, after an absence of several years devoted to sales management work in the oil-burner field. The personnel of the agency and its offices at 58 East Washington street, Chicago, remain the same.

DOWNINGTOWN



WEYERHAEUSER TIMBER CO.
LONGVIEW — WASH.

THERE are three Downingtown Suction Rolls on this machine, a 30-inch couch, a 28-inch first press, and a 28-inch second press. These rolls have direct drive and rear end suction ▲ ▲ ▲ The rear end suction simplifies the piping and eliminates the necessity of breaking and re-making joints in vacuum piping when putting on clothing ▲ ▲ ▲ The rolls are fitted with trouble-proof, self-aligning, ring-oiling, water-cooled, anti-friction journal type bearings. The Downingtown Mfg. Co., Downingtown, Pa.

Philadelphia Paper Market Continues Quiet

Outlook for Future Considered More Promising, Due to Development of Various Stabilizing Influences—Firmer Position of Kraft May Foreshadow Advances in Other Sections of Paper Industry, and More Profitable Business Conditions

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., January 18, 1932.—Though seasonally quiet, the outlook is brighter in factors that appear as stabilizing influence, especially the price firming of kraft, the leader of last year's disturbing influences. With the announcement of a 25 per cent increase on January 14, the trade took a more optimistic outlook on the stabilization of values and more profitable business. Following the advance in kraft, dealers look forward to a further rise in prices if business shows any signs of awakening from the doldroms of the preceding year. It is believed that sulphite papers, such as tissues, wrapping papers, and like grades, will be among the first to experience an advance should the demand warrant.

Another favorable condition for the upward swing of business is the scarcity of special offers of lots of paper in good volume. Distributors believe the manufacturers have disposed of much surplus stock in the drive to reduce stocks on hand to make way for fresh production of the current year. Local manufacturers state there is evidence that paper houses are lining up for improved conditions, as inquiries increase, though present orders are slow in landing. However, the paper board market appears to continue unsettled. Prices on chip and news have been reduced to $22.50, offered here by mills to obtain tonnage for production over the early weeks of the current year. Inquiries for boards would indicate a turn for freer buying later on.

Association Appoints Nomination Committee

President W. S. Wilcox, of the Philadelphia Paper Trade Association, appointed last week the nomination committee to name officers for the annual meeting and election to be held January 22. The committee includes Allen E. Whiting, Whiting-Patterson Company, chairman; Morgan H. Thomas, Garrett-Buchanan Company; William A. Hentz, D. L. Ward Company; and Simon Walter, S. Walter Inc.

Develops Flat Gummed Papers

With a decided growth in demand for its recently introduced absolutely flat gummed papers, the Paper Manufacturers Company, 5th and Willow streets, has been obliged to speed up production on the new line. President Frank A. O'Neill finds a most satisfactory and encouraging business among the critical buyers of absolutely flat gummed papers who have been giving the Perfection brand, made by his firm excellent repeat business. The Paper Manufacturers Company is at present concentrating on the super white gummed sheet and absolutely flat M.F. grades, but is planning to develop the production of colored absolutely flat papers later in the season. The absolutely flat gummed sheets of Perfection were introduced for the first time in the closing months of 1931.

Continental Installs Beck Machine

Having installed a new super-speed grainer, made by the Charles Beck Machine Company, Terminal Commerce Building, in its plant at Ridgefield Park, N. J., the Continental Paper Company has perfected its speed and graining of paper boards. The new Beck super-speed and grainer does marvelous work in the perfection of graining, evenness in spread of ink, and speed in graining. The local representative of the Continental Paper Company, Allen G. Center, 401 North Broad street, has been featuring the perfected grained boards in the trade and among box makers and other consumers.

D. L. Ward Co. Wins Bowling Leadership

The D. L. Ward Company won the first half series of games played by the Paper Trade Bowling League in the early season, having been the leaders in the semi-final games at the Casino Alleys last Thursday. There was a tie between the Whiting-Patterson Company, first and second teams, and the J. R. Howarth Paper Company, which will be played out in the games scheduled this week for second place honors. The Whiting Paper Company stood winner in the regular game played Thursday, leading over the Whiting-Patterson Company No. 1 team.

Converters Use Sylphwrap

Philadelphia paper distributors have in recent times found a growing demand for Sylphwrap, the visible product made by the Sylvania Corporation, of Fredericksburg, Va. The plant at Fredericksburg, Va. is extensively developed to take care of the growing demand. Among the latest units installed in the plant of the corporation is that of the Cellophane Sheeter and Sheet Piler, made by the Charles Beck Machine Company, of this city.

George W. Ward To Return From Arizona

George W. Ward, head of the D. L. Ward Paper Company, 401 North Broad street, who has been spending the past month or so in Tucson, Arizona, will return to his desk the first of February. Mr. Ward has been in Arizona taking treatments for sinus infection, from which he has been a sufferer.

Paper Houses Show New Strathmore Papers

The Quaker City distributors of Strathmore papers are sending to the consuming trades the newest grades of the Strathmore lines in attractive samplers, including the Highway Covers, selling at 16 cents per pound, in modish colors. With the samplers goes a descriptive treatise for advertising printing and other uses. Raymond McNutt Company, Paper House of Pennsylvania, A. Hartung Company, and Charles Beck Company, are the local distributors.

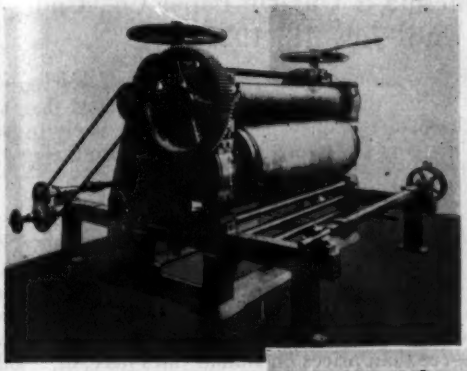
Shinners Joins E. Latimer Jr.

John J. Shinners, formerly of the D. L. Ward Company, has joined the firm of E. Latimer Jr., and will specialize in wrapping papers and specialties in the Philadelphia area, having been connected with that branch of the trade in his old association with the Ward company.

Distribution of Curtis Lines

It was stated in this section of the December 31st issue of the PAPER TRADE JOURNAL that A. Hartung & Co. were exclusive Philadelphia distributors for Curtis & Brother Company's mills, both at Newark, Del., and Mount Holly Springs, Pa. We are informed that, while A. Hartung & Co. are exclusive agents for all the standard stock lines made at the Newark, Del., mill, they are not exclusive agents for any of the Mount Holly Springs mill papers.

. . . Why WALDRON *for Converting Machinery*



Coating Machines

Embossing Machines

Engraved Roll Printing Machines

Festooning Machines

Gumming, Waxing & Saturating Machines

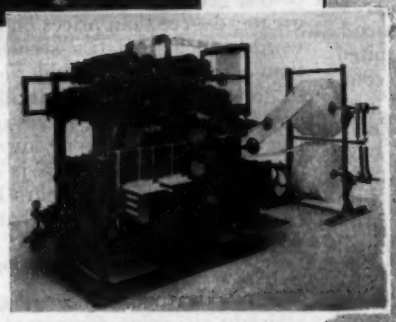
Pasting and Combining Machines

Crepeing Machines

Winders and Slitters

Automatic Web Guides

Specially designed machinery for particular processing requirements.



At Top—Waldron Centennial Embosser—an open front model with split boxes that permits quick change of rolls without need for removing entire box.

Lower — The Centennial Napkin Printing—Embossing—Folding Machine. Performs all necessary operations including sheer cutting and counting—500 napkins per minute without excessive wear or vibration.

Specifying Waldron equipment means more than securing dependable, faultlessly built machines. It means adopting a modern method for increasing quality and output with consequent lowering of unit production costs.

To justify inclusion in the Waldron line of products - a machine must offer decided advantages over other types in operating conveniences and economies —in improved quality of finished product. It must be particularly designed to accomplish these objectives.

A splendid example of this Waldron characteristic is the Waldron Centennial Napkin Machine that now makes it possible to produce perfectly fashioned paper napkins, completely processed at sufficient speed to insure production that is really profitable.

A study of the Waldron line of machines will reveal practical ways to reduce operating costs in paper converting plants. Tell us the class of equipment you are interested in and we will send you descriptive literature.

JOHN WALDRON CORPORATION

MAIN OFFICE AND WORKS, NEW BRUNSWICK, N. J.

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122 East 42nd Street

CHICAGO
201 North Wells Street

PORTLAND, ORE.
311 Lewis Bldg.

WALDRON

Paper Converting Machinery

Great Lakes Paper Shows Operating Profit

Satisfactory Progress Achieved Since Receivership of Company Commenced Last July—Plant Being Operated With Tonnage Allocated From Minnesota & Ontario Paper Co., Under Agreement Which Remains In Effect Until July 18, 1932

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., January 18, 1932—Since the receivership of Great Lakes Paper Company, Ltd., commenced on July 13, 1931, the results have shown an operating profit, without taking into account any amounts for bond interest and depreciation. This announcement is contained in a letter to holders of the company's first mortgage six per cent bonds sent by the bondholders protective committee, of which the Right Hon. Arthur Meighen, Toronto, is chairman, and A. D. Cobban, R. P. Mathiesen, J. H. Ratcliff, Henry D. Thrall and Louis L. Lang are members. There are $10,000,000 of bonds outstanding and interest due March 1 and September 1, 1931, have not been paid. The bonds were offered in Canada and in the United States in 1928. At the time of the receivership the company was operated through arrangements that had previously existed with the Minnesota and Ontario Paper Company, which, together with Great Lakes Paper, have been controlled by the Backus-Brooks interests. At the present time Great Lakes Paper is being operated with tonnage furnished on an allocation basis from the Minnesota and Ontario Paper Company, under an agreement made on August 7 between the receivers of the two companies. This allocation, subject to certain provisions, remains in effect until July 18, 1932, and it is anticipated that the amount of tonnage furnished during the period of the allocation will be between 30,000 and 40,000 tons. Settlement of claim against Minnesota and Ontario Paper Company has not yet been determined, but it is expected that negotiations for this purpose will be entered into between the receivers of the two companies as practical.

In view of the reported negotiations preceding with a view to a merger in the news print industry, the following comment in the letter is of interest: "Certain reports have appeared in the press with regard to a proposed merger of news print companies. The bondholders' committee understands that the receiver and manager of Great Lakes Paper Company, Ltd., is not committed in any way to such merger negotiations, but is making every effort to improve the position of the business in the hope that it may successfully meet any competition which may arise."

Fort William Plant Reopens

January 11 saw the reopening of the Fort William plant of the Abitibi Power and Paper Company, in pursuance of the company's policy of turning its huge inventories of pulpwood at various mills in Canada into cash and to conduct no woods operations until business revives or additional wood is needed to fill contracts. The company has plenty of wood to carry it into next season at its various mills. At the end of 1930 its inventories were shown in the current assets at more than $15,000,000, and on the other side of its balance its chief current liability was bank loans of $4,500,000. The bank loans have been reduced considerably as a result of following the present policy. The huge inventories were piled up when sales of news print were being made in much larger volume than today. The company has its higher cost mills closed down, but it is understood that there is a considerable wood supply at these and that this is resource available for the company if a sudden stiffening of demand later in 1932 should make woods operations advisable at the earliest possible moment. When that time comes, it is believed that, as a result of its present policy, the company is likely to be in good liquid shape to finance such woods operations as are necessary.

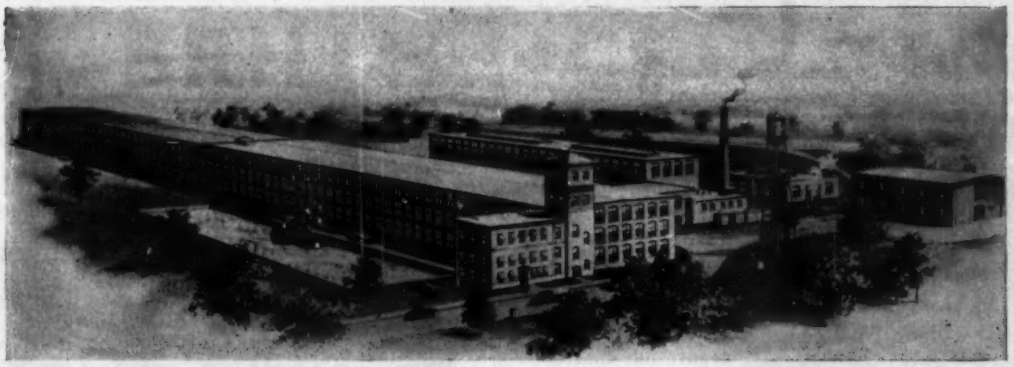
Visited American Box Plants

C. V. Hodder, secretary of the Canadian Paper Box Manufacturers' Association, has returned to Toronto after a visit to California, during which he looked in on a number of the western paper box plants. "Box and carton prices, generally, seemed to have been reduced to an even greater degree than prices on similar lines here, or, in other words, suicidal tactics seemed to be more general there than here," said Mr. Hodder to the PAPER TRADE JOURNAL. "I do not mean by this that all paper box men in the Western States are cutting prices unnecessarily, but the general level seems to have gone lower than the level on this side of the line. Whether this is due to the fact that previous levels were higher than ours I am not in a position to say. In Canada we should be thankful for the mercies of the year.

Notes and Jottings of the Trade

It was learned this week from W. H. Smith, Toronto, assistant managing director of the Abitibi Power and Paper Company, that the company contemplated closing its Pine Falls, Man., mill, probably some time in April. Reason for the closing of the mill, he said, was that by April the mill would have used up all the cut wood in its reserve. The company, he explained, was following a policy of using up all the wood at its various mills, and was not cutting standing timber at present. Re-opening the Pine Falls mill, he said, was dependent upon business conditions. The mill would not be reopened while the company's other plants were able to maintain a supply of paper equal to demand. It was useless, he said, to keep one mill running by cutting standing timber, and to close down some other plant and permit stored wood to rot and become useless.

From Winnipeg come reports of protests against the reported prospective closing down of the Manitoba Paper Company's Pine Falls mill, being launched by the Government of Manitoba, the city of Winnipeg and the Board of Trade. Premier Bracken said that every effort would be made to persuade the owners, the Abitibi Power and Paper Company, to keep the mill running. It was pointed out that more than 900 persons live at Pine Falls, and all are directly dependent on the mill for their living. Efforts will be made to induce the company to operate half time at least. Mayor Ralph W. Webb, of Winnipeg, said that the company had been given valuable and extensive rights over the pulpwood resources of the province, "under the most extraordinary pressure in the history of the Canadian news print industry. Something should have been put in the contract at that time. In fact, I am not sure, if the whole question were thoroughly gone into, that there would not be ways and means of making the Abitibi company either operate in Manitoba or waive its rights to the vast pulpwood assets set aside for it." Premier Bracken said that his understanding was that the Pine Falls plant was not likely to close down this spring.



THE HOME OF ALBANY FELTS

Results Command Attention

GOOD BOARD is not made by accident. It is the result of attention to details. One important detail is the felt.

Without the proper Top and Bottom Felts the board gets away to a bad start, and is handicapped all the way through to the finished product.

A fast-running board machine of today cannot operate successfully with "any-old-felt." It needs Tops and Bottoms designed to meet its individual requirements. Special wools to give added strength, special weaves to permit ample water removal without interfering with finish. Everything must be *carefully balanced.*

The results modern and progressive board mills are securing from Albany Felts deserve your attention.

ALBANY FELT COMPANY ALBANY NEW YORK

Drying Surface Sized Papers

By J. C. Corcoran[1]

For years it has been the custom in the United States to dry surface sized papers under conditions of as nearly air drying as possible, and to accomplish this result, the papers are dried by the loft method or system. Loft drying allows the paper to have the air circulate about the sheets hanging over poles or suspended by clips, giving all the sheets so suspended as nearly an air drying as possible. This process of drying gives nearly every character desired by the most critical consumer or user, but the process of handling and the number of rejected sheets makes the method unsatisfactory and adds a considerable cost to the manufacturing processes. In the method of loft drying the paper dries without tension, and to secure the different finishes required by the trade requires extensive finishing operations such as calendering, plating, etc.

To overcome the disadvantages of the lofts, but to secure the same general results many mechanical devices or machines have been placed in different mills with varying results and effects and many of these systems have proved successful in securing the results desired, but have proven to be expensive in other ways. The nearest conditions to loft drying have been secured by the use of the spar or skeleton driers as is the custom of drying surface sized and coated papers in nearly all European countries.

The McCorkindale drying methods are different in many respects from other systems that have been formerly employed, or as they are employed in many mills at the present time; for it gives the sheet or web during drying the proper amount of oxygen by air circulation, and allows the paper to retain many elements of sizing materials necessary for the sheet to have to meet the critical requirements of the users.

The drying of the surface sized sheet or web by this process is accomplished by drying the paper between two traveling felts, rather than by suspending the sheets in lofts, or by festooning, passing paper over spar driers and as in some cases by means of tension rolls. Introducing the paper between two felts and passing it about drying cylinders, the paper does not come in contact with the heated surfaces of the driers, and the results are as good as to properties desired as it is possible to have them. The finished products treated in this manner, have not only the desired qualities of the loft dried sheets, but have both bending qualities and a surface finish that is easy for the eyes and meets the conditions required by the most critical consumer and user.

The character of the paper dried by the McCorkindale system is not the only advantages of the method, as the system has proven to be an economical one for handling papers not only because of the small percentage of rejected sheets, but high speeds can be secured as paper can be sized and dried by this system at a speed of 500 to 600 feet per minute. In the drying of surface sized papers of many grades it has been found desirable to have the paper season for a time after passing through the sizing liquors, and allowing it to rest for a period of time in reels or rolls before it is passed between the felts of the drying medium. The resting or seasoning of paper in this manner is desirable with many grades, especially in cases, where the product is to find its uses as records and where extensive handling is required as with ledger papers.

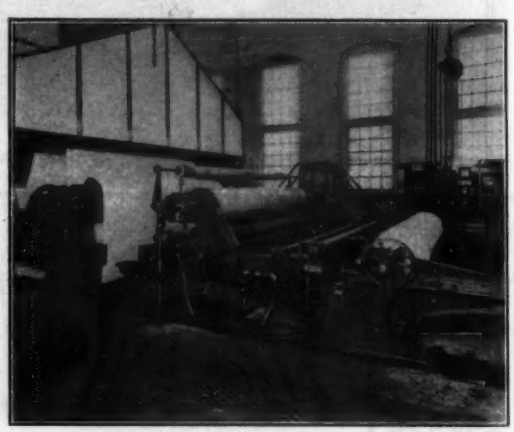


FIG. 1
Starting point of the McCorkindale Drier showing the reeling-off stands, Size Press and beginning of drier unit.

FIG. 2
Shows the drier unit of the McCorkindale Patented Drier with conditioning rolls.

FIG. 3
Finishing end of the McCordindale Drying machine, showing reels, slitter and winder.

[1] Superior Tool Manufacturing Co., Worcester, Mass.

UNEXCELLED IN BRILLIANCE

Even Super-calendering can't dull these colors

DU PONT Halopont colors are particularly suitable for the production of white shades on all papers from book and magazine to bond and writing. Are unequalled for glassine shades, as they are not dulled in super-calendering.

These Halopont colors may be added to the beater in the dry powder form and are quick-developing... possess excellent fastness to light... produce brilliant white shades.

HALOPONT BLUE M

A medium blue suitable for the greener shades of white.

HALOPONT BLUE R

Suitable for the redder shades and may be used in combination with Halopont Blue M to produce any of the medium white shades.

HALOPONT VIOLET

A bright violet suitable for pinkish whites and as a shading color with Halopont Blue M and R.

Have these and other du Pont dyes working for you. Know in advance what your dyes will do—use du Pont Dyestuffs.

A telephone call will bring a du Pont technical service man to tell you more about du Pont laboratory service and du Pont dyes for paper.

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E. I. DU PONT DE NEMOURS & COMPANY, INC., *Dyestuffs Dept., Wilmington, Delaware*

SALES OFFICES: Boston, Mass., Charlotte, N. C., Chicago, Ill., New York, N. Y., Philadelphia, Pa., Providence, R. I., and San Francisco, Calif. Represented in Canada by Canadian Industries Limited, Dyestuffs Division, Canada Cement Building, Montreal, Canada

DU PONT TECHNICAL SERVICE

FOR MATCHING SHADES AND TESTING COLORS

IN the du Pont technical laboratory a battery of small beaters are used to beat customers' stocks when matching shades.

Our customers' paper mill problems, in which a number of experiments must be made on a semi-commercial scale, are solved more rapidly and accurately because this equipment is always available.

The du Pont paper laboratory is equipped to render our customers a complete color-matching service and to assist in solving any paper dyeing problem.

DU PONT DYESTUFFS

The McCorkindale system of drying surface sized and coated papers gives qualities to the finished sheets, that cannot be obtained by loft drying or by other methods of mechanical drying. The paper is dried between two felts, and as the felts are of the ordinary cotton felt type, it allows the necessary amount of air to come in contact with the surfaces of the paper. Since the paper is held between the two felts, the chemical reaction between the sizing materials and the air is such as to give the desired reaction of the sizing materials and the fibers of the paper.

Since the demands of the users of paper, especially papers such as bonds, ledgers and writings, are for non-glare finishes, the papers that have been dried after surface sizing between two felts by the McCorkindale system have a fine velvet finish with the toothed surface, that gives an easy reflection of light, which is not tiresome but is restful to the eyes. The finishes secured by drying surface sized papers by the McCorkindale methods are such that on nearly all grades of rag content papers no calendering is required.

The McCorkindale sizing and drying system with its simplicity of operations, the large capacities that can be secured, and the relative low cost of handling the device, together with the reductions of rejected sheets of paper and broke papers, together with the excellent qualities of the products made will give the system and methods a high standard among the units of paper making machinery in the manufacturing of the higher grades of paper.

Eddy Co. Completes Filtration Plant

The E. B. Eddy Company Limited, pulp and paper manufacturers at Hull, Quebec, has recently completed the first item of its proposed extensive expansion program by the construction of a complete new water system, including a modern filtration plant. The engineering for this work was started in November, 1930, and the initial operation of the completed plant made on November 4, 1931.

Plant Location

The plant is located directly opposite the Parliament Buildings, Ottawa, on the Quebec banks of the Ottawa River, on which the water intake of the plant is located. This water has high color in solution, and other characteristics subject to improvement for pulp and paper process purposes, by filtration.

The work included completely equipped pumping station, chemical department, and filtration plant, with incidental features including intake, railroad siding, and distribution system to the mills for both screened and filtered water.

Filtration Plant

The filtration plant consists of an inlet well, distributing chamber, mixing chambers, settling basin, filters, and clear well storage for the filtered water. The filters are of the rapid sand, gravity type, provided with modern control equipment for most efficient operation.

Pumping Station

The pumping station is located as a separate unit, immediately adjacent the filtration plant, and contains the low head, high head, and other pumps, with direct-connected synchronous motors, rotary screens, traveling crane, and 220 and 440 volt switchboards for controlling all electrical equipment.

Chemical Department

Inter-connecting with the pumping station and filtration plant is the chemical department—a four story structure comprising the alum, lime and chlorine storage, chemical feeders, bucket and platform elevators, completely equipped chemical laboratory, and the superintendent's office. Chemical applications are entirely automatic. The alum is applied in the inlet well as a coagulant, the lime in the clear well as a reagent to correct the acidity of the water, and the chlorine before treatment of the water to promote efficient operation, and after treatment to provide a slight residual to prevent slime in manufacturing processes.

The plant is designed for an over-all ultimate capacity of sixty million gallons per twenty-four hours, which includes forty million gallons screened water and twenty million gallons filtered water. The initial installation of equipment, however, provides capacity of fifteen million gallons of screened water and about seven million gallons filtered water per twenty-four hours.

The structures are entirely of reinforced concrete, steel, and brick. Roof covering consists of twenty year bonded asphalt roof over cork insulation. Basins, tanks, ducts, etc., are all of reinforced concrete, and all exterior walls adjacent water compartments are separated by an insulating air space and provided with off-peak power electric heater connection to prevent frost conditions during periods of winter shut-downs. All windows, doors, door-frames, stairs, walk-ways, ladders, gratings, etc., are of steel. No integral water-proofing was used in the concrete, but surface water-proofing applied as required. Standard expansion joints were utilized.

Designed to Economize Space

The plant was designed to economize space—that is, the pumping station, filtration department, and chemical department form one complete structure, located as a section of the proposed new manufacturing plants of the Company. Greatest flexibility, as related to ultimate extensions and utilization of any future improvements developed in connection with treatment of the water, is provided.

Only Installation of Its Type in Canada

The completely automatic chemical control equipment is understood to be the only installation of its type in the Dominion, and the design and equipment of the plant has been along the lines of modern, municipal filtration plants; that is, filtered water can be made available for the city of Hull's municipal requirements if required in future.

The filtration plant and water system was designed and built under the supervision of L. S. Dixon. The general contractor was the Foundation Company, Montreal. The equipment for the plant was supplied almost entirely by Canadian companies.

G. D. Megel in Charge of Portland Office

PORTLAND, Ore., January 9, 1932.—G. D. Megel, recently representative of the Hawley Pulp and Paper Company with headquarters in San Francisco, is now in charge of the Portland office of the company. The latest line of specialties to be introduced to the trade by Hawley's is Coast Cover, a cover stock being produced in ten different colors.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

New Brunswick, N. J.—The Empire Box Company, Codwise avenue, manufacturer of paper boxes and containers, is said to be planning for extensions in plant, including a new one or two-story addition. Program is reported to cost over $35,000, with equipment.

Fredericksburg, Va.—The Sylvania Industrial Corporation, Fredericksburg, has awarded a general contract to Doyle & Russell, Central National Bank Building, Richmond, Va., for a new addition to its cellulose transparent paper mill at Fredericksburg, where an expansion program has been in progress for a number of months past. The company is doubling the capacity of the mill. Estimated cost of the new unit has not been announced. Headquarters are at 122 East Forty-second street, New York. Dr. Frank H. Reichel is vice president.

Houston, Tex.—The Crown Willamette Paper Company has been incorporated under state laws as an interest of company of the same name, with headquarters at 343 Sansome street, San Francisco, Cal., with mills at Oregon City and West Linn, Ore. The company proposes to operate in Lescas. Raymond Neilson, 1318 Yarshall street, Houston, is local representative.

Holyoke, Mass.—The Holyoke Water Power Company, Canal street, which furnishes power to different paper mill interests in this district, is planning to extend power dam and build a new power house on the Connecticut River. The development is reported to cost over $80,000. Company engineering department is in charge.

Newark, N. J.—The former plant of the Gouch Paper Box Company, 40-44 Austin street, given over to the production of paper boxes and containers, has been purchased by the Parr Electric Company, 28 Treat place, which will occupy for another line of service.

New York, N. Y.—The Majestic Mills Paper Company, 464 Broome street, has leased space in the building of D. S. Walton & Company, 132-42 Franklin street, totaling about 40,000 square feet of floor space, and will occupy for storage and distributing plant, and local headquarters. Present establishment will be removed to the new location. A. Warshow is president.

Camden, Ark.—The Southern Kraft Corporation, a subsidiary of the International Paper Company, New York, has discontinued operations at its mill at Bastrop, La., for the time being, and will concentrate production of kraft papers in this section at its plant at Camden, where full time production is being maintained insofar as mill operation goes, with six-hour shifts for operatives. About 100 men previously engaged at Bastrop have been transferred to the Camden plant until further notice.

Tuscaloosa, Ala.—The Gulf States Paper Company is maintaining operations on a good basis at its local mill, and expects to continue on active schedule for an indefinite period of time. The company has recently been placing orders for raw materials for production, including a contract for 75,000 barrels of lime from the Superior Lime & Hydrate Company, Pelham, Ala.

Elkhart, Ind.—The Illinois Carton and Label Company, 2601 North Crawford avenue, Chicago, Ill., manufacturer of paper boxes and containers, labels, etc., has broken ground for its proposed new plant at Clark and Elkhart streets, Elkhart, and will have superstructure under way in near future. The mill will be one-story, 130 x 200 feet, and is estimated to cost close to $65,000, with equipment. General contract recently was let to George Kistner & Son, 914 North Main street, and sub-contracts are now being awarded, including plumbing and heating work to W. H. Dreves, Inc., 116 South Second street, Elkhart. A. B. Jennings is general manager.

Old Hickory, Tenn.—The du Pont Cellophane Company is continuing production on a capacity schedule at its local mill, with full working force, and expects to hold to that basis for an indefinite period. The company has established a new safety record at the local plant, running for an entire year without a single major or lost-time injury to any operative.

Ontonagon, Mich.—The Ontonagon Fibre Company, operating a local mill for the production of liner board, kraft cover stock, and kindred products, has arranged for a change of company name to the Ontonagon Paper Board Company.

Milwaukee, Wis.—Lakeland Paper Company, recently organized by Donald H. Griffin, 4433 North Cramer street, and associates, is said to be planning operation of a paper converting plant in this vicinity. The company is represented by Bauer F. Bullinger, 152 West Wisconsin avenue, Milwaukee, attorney.

Boston, Mass.—The Ace Art Company, 12 Gould street, manufacturer of photographic papers and kindred materials, has plans under way for a new addition to plant in the Reading section. It is to be two-story, estimated to cost about $35,000, with equipment. David J. Abrahams, 260 Tremont street, Boston, is architect, in charge.

Dalhousie, N. B.—The International Paper Company is continuing operations on a full time basis at its news print mills at Dalhousie and Athol, New Brunswick, with employment of regular working forces, and expects to hold to present basis for an indefinite period. Large shipments have been leaving both mills.

Pine Falls, Man.—The Manitoba Paper Mills, Ltd., is said to be planning for early curtailment of operations at local mill, and it is likely that the plant will be closed for an indefinite period at an early date. The company is a subsidiary of the Abitibi Power & Paper Company, Montreal, Que., and it is proposed to distribute the business to other plants of the company.

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COMING EVENTS

American Paper and Pulp Association, fifty-fifth Convention and Meeting Pennsylvania Hotel, February 15-18. Annual Meeting, Thursday, February 18, Annual Banquet, Grand Ball Room, Thursday, February 18.

National Paper Trade Association of the United States. Convention, Pennsylvania Hotel, February 15-17. Luncheon, Wednesday, February 17.

Technical Association of the Pulp and Paper Industry. Convention, Pennsylvania Hotel, February 15-18. Luncheons, Wednesday, February 17 and Thursday, February 18.

Salesmen's Association of the Paper Industry. Annual Meeting, Pennsylvania Hotel, Tuesday, February 16. Luncheon, Tuesday, February 16.

New York Association of Dealers in Paper Mills' Supplies, Annual Banquet, Hotel Commodore, Wednesday, February 17.

Canadian Pulp and Paper Association. Annual Meeting, Pulp and Paper Research Institute, Montreal, January 27-29.

FOREIGN PAPER TRADE

November exports of paper and paper products from the United States were valued at $1,763,428, being a slight increase over the previous month, but a 15 per cent decrease from those of a year ago according to the Paper Division of the Department of Commerce. During the eleven month period they totaled $20,884,621, against $28,323,149 in the same period last year, or a decrease of 26 per cent.

The following increase over October exports are noted: Box board, (Paper board and straw board) 108 per cent; greaseproof and waterproof paper, 47 per cent; overissue and old newspapers, 36 per cent; fiber insulating lath or board, 42 per cent; sheathing and building paper, 55 per cent, while small increases occurred in exports of news print, book paper, not coated, surface coated papers, tissue and crepe papers, paper towels and napkins, bristols and bristol boards, envelopes, adding machine and cash register paper, and paper hangings (wall paper). Shipments of wrapping paper, toilet paper, other paper board, wall board of paper or pulp, other writing paper and paper bags in November were substantially lighter than in the preceding month.

Compared with a year ago the following increases are noteworthy: Cash register and adding machine paper, 140 per cent; box board (paper board and straw board) 90 per cent; news print, 43 per cent; overissue and old newspapers, 60 per cent; and greaseproof and waterproof papers 30 per cent, while the heaviest decreases were as follows: papeteries (fancy writing papers) 90 per cent; blotting paper, 53 per cent; wall board of paper or pulp, 68 per cent, bristols and bristol board, 47 per cent; boxes and cartons, 43 per cent; envelopes, 30 per cent; paper hangings, 53 per cent; other writing paper, 31 per cent; wrapping paper, 38 per cent and other writing paper 31 per cent.

Exports of paper base stocks in November amounted to $280,538, or a decrease of 10 per cent from those of October, but a 12 per cent increase over those of a year ago. During the eleven months period they were valued at $3,428,740, representing a decrease of 13 per cent over the same period last year. Exports of pulpwood showed a very heavy decline in November, amounting to only $1,027, as against $41,352 in October, while in the eleven month period their value was more than 50 per cent lower than in the same period last year. The same was true of the exports of soda wood pulp, which in November amounted to only $1,734, compared with $6,609 in October. Exports of sulphite wood pulp, on the other hand, were 10 per cent higher than in the previous month. Rags and other paper base stocks declined 17 per cent when compared with October and registered a 48 per cent decrease over those of a year ago.

Imports of paper and paper products in November amounted to $10,033,722, being slightly lower than in October and considerably lower than a year ago. Substantial increases occurred in our imports of the following when compared with the preceding month: greaseproof and waterproof papers, kraft wrapping, tissue and similar papers and duplex and decalcomania paper, not printed, while other wrapping paper, pulp board in rolls, leatherboard, test and wall board, cigarette paper, cigarette books and covers, and paper boxes have according to reports registered heavy losses.

Imports of paper base stocks in November totaled $7,632,499, being 22 per cent higher than in October, but 7 per cent lower than in November, 1931. During the 11 month period they were valued at $70,020,383, as against $99,221,492 in the same period last year. Imports of unbleached sulphite wood pulp registered a very heavy increase over October, as did also those of unbleached sulphate wood pulp and soda pulp, while those of bleached sulphite wood pulp were moderately higher. Bleached sulphate wood pulp, rags for paper stock, and bleached and unbleached mechanically ground wood pulp imports were substantially lower than in the preceding month.

KRAFT QUOTATIONS ADVANCED

Prices on No. 2 domestic kraft paper and Southern kraft have been advanced to $3.25 per 100 pounds, delivered. Kraft paper and paper bag manufacturers are making sincere efforts to avoid serious losses and to correct unsound practices which had gone far towards wrecking the entire industry. The success of this movement will, undoubtedly, prove of the utmost benefit to all branches of the paper industry.

Paper merchants, distributors and converters should support the manufacturers in the heartiest manner and should avoid putting pressure on the mills to accept tonnage at former prices—even one ton of paper over the quantity actually sold before the market advanced. A serious crisis had been reached and can be passed safely if reasonable business practices are followed by all concerned.

A Call to Paper Merchants

Arthur W. Blackman, president, has issued the following call to paper merchants for the twenty-ninth annual convention of the National Paper Trade Association, to be held at the Hotel Pennsylvania, New York, February 15-17.

"It is presumed that every progressive paper merchant recognizing the need, more than ever this year, of information helpful to his business will plan to have his house represented even if he cannot himself attend.

"The meetings of the committees on Postal Affairs, Trade Relations, Trade Practice, Survey, Credit, Bags, Kraft, Tissue, Twine, and Gummed Tape are open to all members, with opportunity for open discussion of all problems presented.

"Come and rub shoulders and exchange ideas with representatives of nearly five hundred other paper merchants and benefit from their experience.

"1. Are your accounting methods now giving you as clear a picture each month as that shown to others?

"2. In what way are others meeting the prevailing conditions?

"3. Is it the time to hold back or go forward?

"Come and secure the answers to these and any other questions that trouble you.

"Come and contribute to the common fund of information.

"Fare and one-half rates will apply on all railroads by special arrangement."

Adirondack Files in Bankruptcy

[FROM OUR REGULAR CORRESPONDENT]

COHOES, N. Y., January 14, 1932.—The Adirondack Pad Company has filed a petition in bankruptcy and Louis R. Breslin, of Waterford, has been appointed receiver by order of the Federal Court at Utica. Among the principal creditors of the firm are Sarah T. Jermas, Charles E. Van Siver and Harry L. Mason. The petitioners claim that the company has practically abandoned the plant and laid off the majority of its employes. The officers of the company are as follows: Willard Vanderzee, of Troy, president and director; Kenneth Young, of Winchester, Mass., treasurer; A. M. Bagnell, of Holliston, Mass., secretary.

News Print for December

Production of news print in Canada during December, 1931 amounted to 165,173 tons and shipments to 165,017 tons, including an estimate for one company whose exact figures were not reported according to the news print Service Bureau. Production in the United States was 93,861 tons and shipments 93,550 tons, making a total United States and Canadian news print production of 259,034 tons and shipments of 258,567 tons. During December, 24,514 tons of news print were made in Newfoundland and 1,224 tons in Mexico, so that the total North American production for the month amounted to 284,772 tons.

Adding to the production of the regular news print mills reporting monthly throughout the year, the small amount made by mills whose product is chiefly other grades, the total North American output of news print paper in 1931 was 3,688,450 tons, of which 2,220,775 tons were made in Canada, 1,157,497 tons in the United States, 294,983 tons in Newfoundland and 15,195 tons in Mexico. The Canadian output was 11.3 per cent less than in 1930, that in the United States 9.7 per cent less, with a gain of 2.7 per cent in Newfoundland and 6.4 per cent gain in Mexico, making a total continental decrease of 399,614 tons, or 9.8 per cent.

During December the Canadian mills operated at 51.3 per cent of rated capacity, the United States mills at 62.9 per cent and Newfoundland mills at 96.8 per cent. Stocks of news print paper at Canadian mills totalled 54,214 tons at the end of December and at United States mills 32,709 tons, making a combined total of 86,923 tons which was equivalent to 4.8 days' average production.

Mild Winter Interferes With Logging

[FROM OUR REGULAR CORRESPONDENT]

LYONS FALLS, N. Y., January 18, 1932.—The mild weather is interfering with logging operations in this section and recent rains have caused a cessation of virtually all activities. Conditions are similar at all camps and it is claimed that a spell of real cold weather will be necessary to have the logs hauled to the skidways for the annual spring drives.

Among the Northern New York concerns employing a large force at its timber tract in the Adirondacks is the Gould Paper Company. A project is now under way calling for a cut of 28,000 cords of spruce and balsam pulp wood but the absence of favorable winter weather is retarding the work. The company is employing nearly 200 men at its camp besides a large number of tractors. The task of hauling the timber to the skidways was suspended early this week because of the unseasonable weather. John B. Todd is supervising operations.

The Racquette River Paper Company, of Potsdam, has also contracted to receive a supply of pulp wood from the vicinity of Meacham Lake and a large force of lumberjacks are awaiting better conditions in order to bring the consignment to the skidways for the spring drive.

New Permutit Booklet Issued

The Permutit Company, 440 Fourth Avenue, New York, manufacturers of water treating equipment, has just published an interesting booklet entitled "Hot Lime Soda Water Softening." It is profusely illustrated with photographs and diagrams and contains tabulated data, conversion factors, methods of calculating chemical charges, chemical reactions, etc. 24 pages in all, it is a reliable and authoritative treatise. Complimentary copies will be sent on request.

TWO good bets for paper makers!

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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

The Determination of Rosin in Paper*

By E. Sutermeister[1] and W. V. Torrey[2]

During the course of a recent investigation of sizing it became desirable to check up on the amount of rosin present in the stock and see how it was divided between the paper and the white water during paper making operations. As unexpected difficulties were encountered it was thought best to determine how completely resinous material could be extracted from stock sized with known amounts of rosin.

Samples Used

The stock used consisted or equal parts of sulphite and soda fibers and it was mixed for 20 minutes in a laboratory beater but beaten hardly at all. Portions of the moist stock equal to 5 grams dry were weighed out, 2.5 grams of dry clay added, and the whole diluted to a density of approximately 5 per cent. A carefully measured volume of size emulsion of known strength was added and the mixture stirred and allowed to stand 5 minutes. Alum solution was then stirred in and after 15 minutes the mixture was diluted to 1 per cent density and filtered through a small suction filter. The filtrate was refiltered through the cake so that the final filtrate was clear. The cake of moist stock was dried at a temperature of about 105 deg. C. broken up and placed in a Soxhlet extraction thimble for analysis. The filtrates were extracted with ether and the weight of ether soluble material thus obtained added to that extracted from the dry sample.

Official Method

The first method of extraction tried was the "Official Method for Quantitative Determination of Resin in Paper" (Paper Testing Methods pp 110-111), in which the solvent used consists of a mixture of 95 per cent alcohol (90 per cent by volume), glacial acetic acid (0.5 per cent by volume), and water (9.5 per cent by volume). This method also recommends that the solvent should siphon "at least 12 times or as many more as may be necessary until the solvent siphons over colorless" but neglects to state that the color imparted by the rosin is so slight that the color of the solution can give no real indication of the removal of the last traces of rosin. There is also no mention of any special precautions to take during the extraction, while our experience has been that very severe bumping is likely to occur when this solvent is used. This trouble could not be stopped by using glass beads or sharp splinters of glass in the boiling flask but was completely cured by adding small pieces of metallic aluminum.

Using the Official Method on samples sized as above described the following results were obtained after correcting for the extractable material in the fibers used.

Rosin in Grams Added	Rosin in Grams Extracted	Recovery per cent
0.7250	0.6423	88.5
0.2910	0.2785	95.7
0.7250	0.7087	97.6
0.2910	0.2625	90.2
0.2910	0.2650	91.0
0.2910	0.2640	90.6
Average		92.3

Another series of tests was made in which the alcohol extraction was followed by one with ether. For comparison a single test was made in which ether alone was used. In each of these tests the rosin added to the pulp was 0.2940 gram.

Rosin in Grams in Alcohol	Ether	Total	Recovery per cent
.....	0.2705	0.2705	92.0
0.2735	0.0000	0.2735	93.0
0.2755	0.0085	0.2840	96.5
0.2710	0.0035	0.2745	93.4
0.2590	0.0230	0.2820	95.9
0.2640	0.0140	0.2780	94.5
0.2625	0.0110	0.2735	93.0
Average			94.0

It is quite obvious that neither the official solvent alone, nor the official solvent followed by ether, will remove all of the rosin in sized paper.

Time of Extraction

Although the shortest time that any of these samples was extracted was 2 hours at about 10 siphonings per hour, or much more than the minimum specified by the official method, it was thought best to determine the effect of time on the amount of extract obtained. For this test two samples of pulp were sized as before but no clay was used. The extraction was carried out for 12 hours at the same rate of siphoning as before but the amount of rosin removed for each 4 hour period was determined separately.

Rosin Added gms.	Rosin Extracted in 4-hour Periods 1	2	3	Total	Recovery per cent
0.2910	0.2585	0.0100	0.0045	0.2730	93.7
0.2910	0.2410	0.0140	0.0135	0.2685	92.5

This proves conclusively that the minimum number of siphonings specified by the standard method is utterly inadequate to extract the rosin completely.

Effect of Drying

The next step was to see whether the final drying of the extracted rosin at 100 deg. C. for 1 hour might cause enough loss to account for an appreciable part of the apparent error. Three samples of "G" rosin of approximately the weight found during an analysis were dried at 100-105 deg. C. for 1 hour, cooled in a dessicator and weighed with the following results.

Weight in grams Taken	After drying	Loss in per cent
0.2500	0.2457	1.72
0.3357	0.3312	1.34
0.5094	0.5057	.73
Average		1.26

* To be presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 15-18, 1932. Written discussion of this paper will be welcome and should be sent to B. W. Scribner, chairman, TAPPI paper testing committee, Bureau of Standards, Washington, D. C.

Contribution of TAPPI paper testing committee.

[1] Member TAPPI, chief chemist, S. D. Warren Company, Cumberland Mills, Maine.

[2] Member TAPPI, assistant chemist, S. D. Warren Company.

The per cent loss on drying is greater the smaller the sample handled, but in no case is it great enough to account for nearly all of the unextracted rosin in the previous tests. Because of this loss on drying it seems safe to assume that an extraction accounting for 98-99 per cent of the added rosin may be considered as complete.

As it began to appear that the precipitate formed by mixing alum and rosin size might not be entirely soluble in the solvent employed, tests were made to prove this point. Size emulsion was precipitated with alum and the precipitate filtered off through an extraction thimble which was then dried, and extracted for 10 hours in a Soxhlet apparatus. The filtrate passing through the thimble was extracted with ether to make certain that no rosin was lost at this point.

Rosin taken	Rosin found	Recovery
0.2930	0.2920	99.6
0.2930	0.2670	91.2
Average		95.4

A second test in which the emulsion was precipitated in a separatory funnel and extracted with ether showed that 99.2 per cent was recovered when hydrochloric acid was the precipitant and only 83.8 per cent when alum was used instead of acid.

On the theory that a stronger acid than acetic was necessary to break up the alum-rosin complex trials were made with alcohol acidified with sulphuric acid in the proportion of 5 cc of concentrated acid to 200 cc of 95 per cent alcohol. Size emulsion was precipitated with alum as in the former test and the thimble containing the dry precipitate soaked in the acid alcohol for 5 hours and extracted in a Soxhlet for 8 hours. The acid was partly neutralized with caustic soda before evaporating off the alcohol and the residue was extracted with ether, dried and weighed.

Rosin in Grams Taken	Rosin in Grams Found	Recovery per cent
0.2897	0.2855	98.5
0.2897	0.2855	98.5
0.2897	0.2875	99.3
0.2897	0.2865	98.9
Average		98.8

The final test was made on pulp loaded, sized and dried as in the previous trials. For convenience of handling the samples were allowed to stand in the warm solvent over night before extracting; the length of time necessary for this soaking has not been determined but for the alum-rosin complex, as noted above, 5 hours is ample and it is suspected that less time would be sufficient.

Rosin in Grams Added	Rosin in Grams Found	Recovery per cent
0.2897	0.2865	98.9
0.2897	0.2875	99.0
0.2897	0.2850	98.4
0.2897	0.2840	98.0
0.2897	0.2862	98.9
Average		98.6

These results show practically complete extraction and it has been proved that no reducing sugars were formed by the action of the acid solvent on the fibers.

It is proposed that the standard method be changed by substituting alcohol acidified with sulphuric acid for the alcohol-acetic acid mixture now employed. The sample should be soaked several hours in the solvent before starting the extraction. The minimum time for soaking and extracting has not yet been fixed with any degree of certainty.

It is also suggested that the final time of drying at 100 deg. C. be reduced to half an hour in order to minimize the loss by volatilization.

The Determination of Unbleached Sulphite*

By E. Sutermeister[1]

These notes are intended to call attention once more to a method for determining unbleached fiber in paper by means of Millon's reagent. The method has been mentioned in the Technical Association meetings and described in the writer's book "Chemistry of Pulp and Paper Making."

The procedure is, briefly, to moisten the sample with Millon's reagent, and plunge it momentarily in the steam of a steam bath. Warming carefully over a flame or over a radiator will also serve the purpose, but if heating in any of these ways is too long or too severe the proper effect is not obtained. Under satisfactory conditions the unbleached fibers show as brownish hairs in the white paper and the number of such hairs is an indication of the amount of unbleached fiber present. When the proportion of unbleached fiber is very great the whole paper turns brown and no estimate of its composition is possible. Groundwood also turns brown with this reagent so the test does not distinguish between groundwood and unbleached fibers.

To see what accuracy might be expected of this method samples of hand made, sized papers were prepared with amounts of unbleached fiber varying from 5 to 25 per cent in intervals of 5 per cent. When these were tested in the manner outlined there was no difficulty at all in arranging them in the proper order and the difference between 20 per cent and 25 per cent was fully as marked as that between 5 per cent and 10 per cent.

The fibers used in preparing these sheets were not beaten very much and so were longer than would be present in many commercial papers. This might have some influence on the use of the sheets as standards but the question has not been settled as it has not been possible to obtain commercial papers with accurately known proportions of unbleached fiber. Other factors which might influence the accuracy of this test are the formation and finish of the sheet, its degree of sizing and above all the quality of the unbleached sulphite used. It seems highly probable that the severity of cooking in preparing the unbleached sulphite might have considerable influence on the depth of color produced by Millon's reagent. All these points remain to be worked out.

It is realized that this method is not one of great precision, but there are frequent cases where a paper mill chemist is asked whether there is much or little unbleached fiber in a sample and if he has available a set of standard sheets for comparison with the unknown he can quickly supply an approximate answer.

* To be presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 15-18, 1932. Written discussion will be welcome and should be sent to B. W. Scribner, chairman, TAPPI, paper testing committee, Bureau of Standards, Washington, D. C. Contribution of TAPPI paper testing committee.

[1] Member TAPPI, chief chemist, S. D. Warren Company, Cumberland Mills, Maine.

Engineers to Visit Central Stations

Final arrangements have been completed to enable the engineer members of TAPPI to visit two of the outstanding power plants of the metropolitan districts. These will be the Fourteenth Street Station of the United Power and Light Company including the boiler plant and generating room, and the East River generation station of the New York Edison Company. Since these plants are not generally open to visitors a particular courtesy has been extended to our association. It is very necessary, however, for Mr. M. H. Teaze, chairman of the TAPPI Heat and Power Committee, to know how many will be able to visit these two plants, on Monday, February 15th. Any member of TAPPI will be welcome. Please write at once to Mr. Teaze at 200 Fifth avenue, who will inform you of further plans regarding the visit.

Graphical Calculation of Machine Production

By W. F. Gillespie[1]

A number of useful nomographs have appeared recently in the literature for the rapid solution of mathematical equations.[2]

We have used the accompanying chart as a handy means of arriving at the production of a kraft paper machine. The calculations are based on 100 inch trim and ream weight of 480 sheets, 24 inches by 36 inches.

The production in pounds paper per hour for different basis weights run at various speeds is given by the curves on the left of the diagram and read on scale A.

Scale B is graduated in terms of hours run, and scale C in tons production for 100 inch trim.

To convert the reading on scale C to a machine of any trim, scale D is graduated in inches trim and the final production for the required trim read on scale E graduated in tons.

[1] Chemical engineer, Bogalusa Paper Co., Inc.
[2] Davis, P. & P. Mag. of Canada, August 6, 1931; Davis, Paper Industry, October, 1931; Micoud, Le Papier, 1931, pp. 363-371.

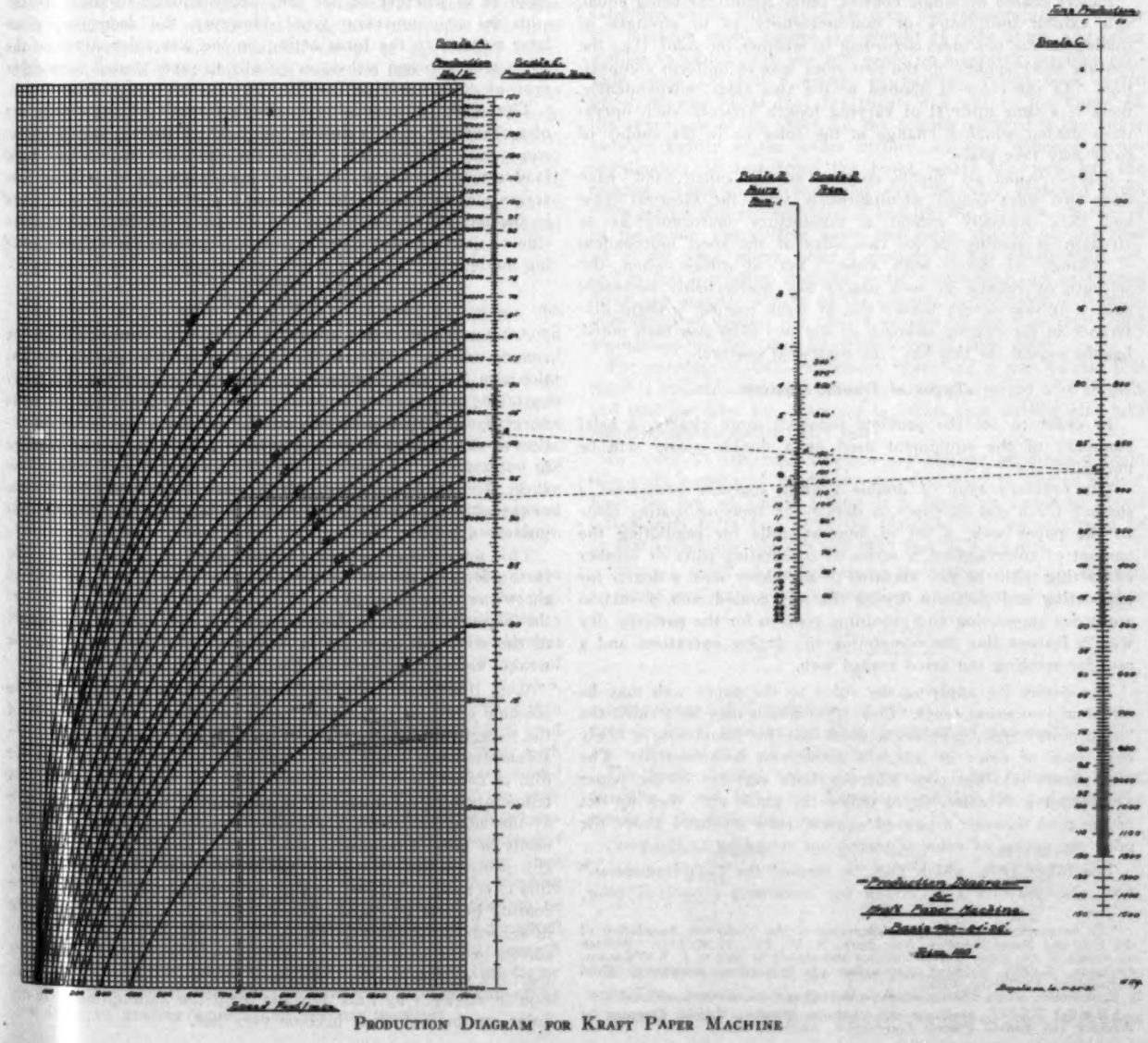
The error is about ± 1 per cent.

Example: A machine of 150 inch trim has run for 8 hours and 30 minutes on 50 pound basis weight (480—24x36) at a speed of 750 feet per minute.

To calculate the production, proceed as follows: Read vertically from the point "S" to the intersection of the 50 pound basis weight curve and then horizontally to the right to the point "a." The production is found to be 6,500 pounds per hour. Join this point to "b" (8½ hours) and extend the line to point "c." The production is found to be 27.7 tons.

To convert to a trim of 150 inches, join "c" to "d" on scale D and extend to point "e" on scale E which gives the production as 41.6 tons.

If, on scale B, the time run is read as 10, 20,—240 hours, instead of 1, 2,—24 hours, then the production is read on the right side of scale C and the reading on scale E is multiplied by 10.



PRODUCTION DIAGRAM FOR KRAFT PAPER MACHINE

Paper Coating Strength Factors*

By Harold R. Rafton[1]

In the manufacture of coated paper, there is probably no factor which receives more consideration than the strength of the coating. The tests used for determining this factor such as wax, specimen printing, or the moistened finger, are not very sensitive, and do not always agree, but at least they afford indications which are useful in routine testing. Most mills run with a certain factor of safety in their coating strength but in spite of careful supervision it occasionally happens that owing to difference in the adhesive strength of different cars of casein employed, difference in the sizing strength of the raw stock (i.e. body stock), and the like, that the coating strength will drop unintentionally until the factor of safety has been eliminated or even until the coating has become slightly weak in strength. Such conditions are of course common to all mills making coated paper, whether single coaters, double coaters, or some of the more newly developed coating machines are employed.

Papers coated on single coaters, other conditions being equal, will exhibit uniformity or non-uniformity as to strength of coating on the two sides according to whether the color (i.e., the coating mix) applied to the two sides was of uniform composition. As the color is applied to the two sides independently, there is a time interval of varying length between such operations during which a change in the color or in the supply of color may take place.

Papers coated on double coaters, on the other hand, have their two sides coated simultaneously from the identical color and thus normally exhibit a satisfactory uniformity as to strength of coating on the two sides of the sheet independent of change of color with time. Yet at times when the strength of coating in such papers has inadvertently decreased until it is just on the border line of weak coating, a slight difference in the coating strength of the two sides has been noted, but the reason for this has been somewhat obscure.

Types of Double Coaters

In order to see the problem involved more clearly, a brief summary of the equipment used on a double coater will be useful.

The ordinary type of double coating machine comprises a support for a roll of paper, a device for applying coating color to the paper web, a set of squeeze rolls for regulating the amount of color applied, a series of cooperating pairs of brushes contacting with the two surfaces of the paper web, a floater for supporting and partially drying the wet coated web, a suction apron for supporting and providing tension for the partially dry web, a festoon line for completing the drying operation, and a reel for winding the dried coated web.

The device for applying the color to the paper web may be either of two usual types. One type, which may be termed the "immersion" type, provides a color box for containing a fairly deep pool of color in which a guide roll is immersed. The web passes into the pool whereby both surfaces of the paper are coated with color, down under the guide roll, then up out of the pool through a pair of squeeze rolls arranged above the pool, the excess of color squeezed out returning to the pool.

The other type, which may be termed the "non-immersion" type, also provides a color box for containing a pool of color, but the pool is usually much shallower. A pair of squeeze rolls is likewise provided, but in this case the customary arrangement is for the bottom roll to dip into the color pool and thus convey the color to the bottom surface of the web as it passes through the nip of the rolls. A supply of color from a pipe flows on to the top surface of the web just in front of the nip of the squeeze rolls, the excess is squeezed off this surface by the rolls, falls into the pool, and thus serves as the source of supply for the pool.

Whichever type of color applying device be used, the paper web travels substantially horizontally from the nip of the squeeze rolls through the several pairs of brushes, over the floater and on to the suction apron.

Although both types of color applying devices are in common use, the observations recorded herein were made only on paper coated with the "immersion" type device. No information is at hand as to whether or not they apply equally to paper coated with the non-immersion type. However, the deductions given later relative to the force acting on the wet color films on the surface of a coated web apply equally to paper coated with either type of color applying device.

The slight difference in coating strength of the two sides of a sheet coated on a double coater which has, as stated above, sometimes been observed when the coating strength has been inadvertently reduced below the usual margin of safety, possesses a rather peculiar characteristic. This peculiarity consists in the fact that in such case the weaker of the two sides is the side of the sheet that was lowermost in passing through the coating machine.

Wire Side Coating

As in some mills it is customary to run the paper through the coating machine wire side lowermost, it was thought that it was the wire side which always exhibited the weaker coating under such circumstances. As the wire side of a sheet of raw stock is normally slightly less sized than the felt side, owing to the action of the suction boxes and suction roll of the paper machine in extracting a portion of the sizing from the wire side of the sheet, it might be expected that the wire side would absorb more of the adhesive from the color than would the felt side, and thus possess a weaker coating.

This possibility however does not seem to be the controlling factor, for at a time when weaker sizing on one side of a coated sheet was being experienced with a certain color mix, a reversal of the paper roll, feeding in the web felt side lowermost instead of the wire side, resulted in reversing the side which was the weaker coated, the felt side then being the weaker.

With this information available, attention was directed to the possible effect of the hot air from the floater upon the side of the paper web directly exposed thereto, i.e. the lower side. The assumption was made that the momentary exposure of the wet film of color on the lower side of the web to the relatively high temperature of the floater air might slightly weaken the strength of the adhesive. Such a degree of weakening would not ordinarily be noticed because of the factor of safety in strength usually present, but owing to border line conditions in strength, this effect might be just enough to decrease the strength of the coating beyond the danger point. This possible weakening was in accord with certain evidence which indicated that casein dissolved in the cold possesses somewhat more adhesive strength than hot cooked casein. However this hypothesis of deterioration of strength by heat depends upon the assumption that the color on the web does become very hot.

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* To be presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 15-18, 1932. Written discussion of this paper will be welcome and should be sent to J. J. O'Connor, chairman, TAPPI finishing, processing and converting committee, Mead Corporation, Chillicothe, Ohio.
Contribution of TAPPI finishing, processing and converting committee.

[1] Member TAPPI, president and chemical director, Raffold Company of America and Raffold Process Corporation, Andover, Mass.

Temperature of Color Film

There appears to be no simple way of directly measuring the temperature of the color film on the two sides of a moving web of paper. It is apparent, however, owing to the absorption of heat by the evaporating water, that the temperature of the still wet surface film cannot reach the temperature of the air issuing from the floater except in the unlikely condition of 100 per cent humidity. At all lower humidities the maximum temperature which the wet surface film can attain is the wet bulb temperature at that humidity. With the relatively low humidity usually obtaining in the air issuing from the floater, such wet bulb temperature is substantially below the dry bulb temperature. As an example, if the temperature of the heated air issuing from the floater is 140 deg. F., and the percentage of relative humidity is 38, the wet bulb temperature, which corresponds to the temperature attained by the evaporating wet surface film of color, will only be 110 deg. F.[3] Hence it appears doubtful whether the color film while it is still in the wet condition ever becomes hot enough to bring about a weakening of the coating.

The possibility of differences existing in the composition of the color applied to the two sides of the web was next examined. In respect to the immersion type of color box, this seems hardly likely, since even in those cases where the color box is not provided with a suitable agitator the paper web itself and the motion of the guide roll serves to agitate the color. However even if a settling of the color did take place, the same color, although changed slightly in composition from that originally used, would still be applied to both sides of the web. (In the case of the non-immersion type of color box, however, if a suitable agitator is not provided, some settling of the heavier material may take place in the box, and consequently there might be applied to the lower side of the web a color which contained a slightly less content of pigment than did the original color supply flowing on to the top of the web).

Gravitational Effect

As none of the above suggestions appeared to explain the situation, attention was directed to another factor which had not previously been considered. That factor was the force of gravity. From that view-point it is seen that the wet color film on the two sides of a paper web in a horizontal position is subjected by gravity to exactly opposite conditions. In the case of the upper side of the web, gravity would tend to cause the pigment in the color to settle in the color film toward the surface of the web, whereas in the case of the underside of the web gravity would tend to cause the pigment to settle toward that surface of the color film exposed to the air and away from the surface of the paper web.

If such a settling or segregation of pigment from the casein solution takes place in the film of color, obviously as the pigment in the color film on the top side of the web will tend to settle on to the web, there will be formed above the pigment on the side of the color film exposed to the air a thin layer of liquid relatively rich in casein. On the bottom side of the web, on the other hand, there will be formed next to the web a thin layer relatively rich in casein, while the pigment layer will tend to concentrate at the exposed surface of the color film, with relatively less casein on that exposed surface than there would be on the corresponding surface of the upper side of the web. The pigment on the lower side of the web would thus be less completely surrounded with casein or rather would be surrounded with proportionately less casein toward the exposed side, than would the pigment on the upper side of the web. Thus the bonding of the pigment to the lower side of the web would tend to be weaker than to the upper side. This difference would be small and not noticeable with a coating possessing the usual strength factor of safety, but when for some reason or other this factor of safety was absent, the slight difference in strength caused by the effect of gravity would then become manifest.

As the film of color is so thin and the time before the color film is substantially set is so short, it might perhaps appear that the force of gravity would have a wholly negligible effect in causing any segregation of the pigment in the color film on the web. However an analysis of the situation indicates that the effect of gravity may be quite appreciable.

There are no measurements available of the actual thickness of a wet color film, but this thickness may be arrived at by calculation. Assuming that a color suitable for ordinary book and magazine papers averages between 35 and 40 per cent dry solids, and that the specific gravity of such color runs between 1.2 and 1.3, then a gallon of color will weigh from 10.0-10.8 pounds, and contain from 3.5-4.3 pounds of dry matter. If the average weight of coating on a ream of paper (25 x 38 coated two sides) is taken to be approximately 25 pounds, this weight of coating will be contained in from 5.8-7.1 gallons, i.e. in from 1340-1640 cubic inches, of color. The surface to be covered by this volume of color will be 25 x 38 (size for basis weight) x 500 (number of sheets per ream) x 2 (both sides of the sheet), or 950,000 square inches. By dividing 1340-1640 cubic inches by 950,000 there is obtained the thickness of the wet color film in inches, which is found to be .0014-.0017 inches.

The time which the wet color film stays in a moist or liquid condition varies with the color mix, the temperature of floater air, machine speed, nature and weight of body stock, and other similar variables. On one test made on a coating machine running about 150 feet a minute on medium weight book coated paper, it was found that the paper was wet to the finger on the under side of the sheet, i.e. the coating adhered to the finger touched lightly to the under surface, up to a distance of approximately 15 feet from the point where the web left the brushes. Thus in this particular case the color remained liquid for a period of 6 seconds after it had left the brushes. However as the color was getting more and more viscous all the time up to the point where, after 6 seconds, it was substantially set, and as this increasing viscosity would continuously act in slowing down any possible settling of the pigment in the color, it is probably better to assume not over 4 seconds as the time that actual segregation of the color by settling could take place.

For purposes of this computation therefore it may be said that there is available for segregation by settling a period of 4 seconds and that the color film thickness in which such settling may take place is approximately .0015 inch.

In order to determine whether any settling of pigment could take place under such conditions, recourse must be had to Stokes' Law, the law of bodies falling in a liquid, in order to obtain information as to how large the diameter of a particle must be so that such a particle will fall .0015 inch in 4 seconds.

"When a small sphere falls under the action of gravity through a viscous medium it ultimately acquires a constant velocity equal to

$$V = \frac{2/9\ g a^2\ (d_1 - d_2)}{K}$$

a = radius, and d_1 = density of sphere
d_2 = density of medium and K is coefficient of viscosity"
g is the constant of gravitation.

For finely divided quartz of spherical form falling in water, particles of the following diameters will fall the following distances in the following times.[4]

Diameter particles in inches	Fall in inches per second	Fall in inches per 4 seconds
.00008	.00014	.00056
.0002	.00088	.00352
.0004	.0036	.0144
.0008	.0144	.058
.002	.088	.35
.004	.36	1.44

It is thus seen that if the color consisted of ground quartz in water, the diameter of a particle which would settle .0015 inch in 4 seconds would lie between the first two figures given in the first

column or approximately between .0001 and .0002 inch (or expressed metrically, from 2.5 to 5.0 microns).

Pigment settling in color varies however from quartz spheres falling in water in a number of respects, some of which would have an influence according to Stokes' Law, and some of which would not be included under the various terms in the law. The term "2/9 ga^2" would be constant for both the quartz spheres and the pigment particles in a color mix. As the specific gravity of quartz is 2.5—2.8[3], and of water is 1, the term $(d_1—d_2)$ for the water-quartz system would be 1.5—1.8. As the pigments in a color mix, which may consist of clay, alkaline earth compounds, and the like average about 2.6 in specific gravity, the term $(d_1—d_2)$ for these pigments would be about same as for quartz. Thus the velocity of fall of the pigment in color from a consideration of this term alone would be about the same as for quartz in water. However the value of the term "K" i.e., the viscosity of the medium in which the particles are falling, would be for a color mix at least several times that of water; and such an increase in "K" would proportionately decrease the velocity of fall that a particle of given size in the color would have compared with that of quartz in water.

There is one other factor which would greatly decrease the velocity of fall of a particle in the color in comparison with that in water and that is that the fall in water calculated according to Stokes' Law is supposed to be that of free body unaffected by other bodies, whereas in color the concentration of pigment is so great that there exists a condition known as "hindered settling," and there is no term in the law to take such factor into account. This factor greatly slows down the rate of settling. However there is another factor which not only compensates for this slowing down of settling rate due to "hindered settling," but also for the slowing down due to viscosity, and that is that all particles would not have to fall the entire thickness of the film, but on the average only half of that. Moreover the assumption of the case of complete settling out is only for the purpose of computation. Actually the case being dealt with is the possible settling out of pigment particles for a fraction of the thickness of the film, and particularly for the very small distances which those particles very close to the inner and outer surfaces of the film must fall. That is, it is the segregation of particles and not their complete settling out which is the case at issue

Under these circumstances it will be seen that whereas it is not possible without exact data on the rates of settling of particles of various sizes in various color mixtures to obtain accurate figures, nevertheless the above analysis indicates that the size of particles which might settle an appreciable distance in a color film would probably not be greatly different from the order of magnitude of those particles which can and do exist in a color mix. It is thus seen that this analysis of the situation lends distinct probability to the assumption that the force of gravity is of considerable importance in determining the cross-sectional constitution of a film of color on a paper web. It also lends support to the hypothesis set forth herein as to the effect of gravity in causing the slight difference in strength of coating of the two sides of a paper coated on a double coater under conditions where it is possible to notice such slight difference.

Color Viscosity

In the average mill, paper which has dropped below the standard of strength or has weak coating on one side is not shipped. The forces tending to produce such imperfect paper, in other words the forces which tend to increase the velocity of pigment settling, are those which, if minimized, will tend to reduce such faulty production. The increase in the factor "K" in the denominator of Stokes' Law will decrease the velocity of settling. Thus any increase in viscosity of the color, which can be effected without other untoward effects such as brush marking is helpful: likewise any increase in solid content. However these two expedients are in most cases already fully exploited for any given machine equipment.

There remain the terms in the numerator of Stokes' Law, by a decrease of which the velocity of fall of particle is decreased. The fraction "2/9 g" is of course constant. The other two terms "a^2," and "$(d_1—d_2)$" are susceptible of change. Taking the latter first, it is apparent that any increase in the specific gravity of the pigment employed increases the velocity of fall, and conversely any decrease in specific gravity decreases velocity of fall. Hence pigments of lower specific gravity are most suitable from this standpoint. The remaining factor "a^2," because of the fact that it is an exponential factor, is the most important one affecting the value of the expression. Thus any decrease in the radius of the particle is very potent in decreasing the rate of fall. Therefore, the use of pigments of very fine particle size, being conducive to slow settling rate, is particularly indicated.

Conclusion

An analysis of the situation makes it seem probable that the segregation of the pigment in a color film by gravity may under certain conditions influence the strength of the resulting coating, and this segregation may be minimized by increasing the viscosity of the color, by using pigments of low specific gravities, and particularly those which have very fine particle size.

References

[2] "Kent's Mechanical Engineers' Handbook," 10th edition (1923), page 660.
[3] "Laws of Physical Science," by E. F. Northrup (1917), page 25.
[4] Figures adapted from their metrical equivalents in "Die Schlamm-Analyse," by Hermann Gessner (1931), page 16, table 2.
[5] Ibid., page 229.

TAPPI Notes

A. B. Copping has been appointed assistant director of research of the International Paper Company in place of F. H. Davis who has become manager of the Hudson River mill of that company. Mr. Copping was lately sulphite superintendent of the International Power & Paper Company of Newfoundland, at Corner Brook, Nfld.

Vernon Woodside has resigned his position as resident chemist of the Skaneateles Division of the Oswego Falls Corporation and is at present located at 30 Wardwell Avenue, Adams, N. Y.

The Lakes States Section of the Technical Association met at Menasha, Wisconsin, on January 12th. Joseph H. Wallace of Black-Clawson Company, read a paper entitled, "Random Thoughts About Paper Making," and A. E. Montgomery of J. O. Ross Engineering Corporation, read one on "Equipment Used in Paper Mill Heating and Ventilating.

Edward H. Shotthafer, a recent graduate of Cornell University has become chemist of the Brownville Board Company, Brownville, N. Y.

The Kalamazoo Valley Section of the Technical Association met on January 13th in Kalamazoo, Mich. An election of officers took place in which the following were elected: E. Frank Whittington of the Sutherland Paper Company, chairman; Harry C. Bradford of the Rex Paper Company, vice chairman; and Carl C. Schneider of the Hawthorne Paper Company, secretary. J. E. Schoop gave a talk on his experiences with starch for coating.

Miss Louise McGrath has resigned her position as chemist of the Booth Chemical Company, Elizabeth, N. J., and is at present located at 4225 S. 20th Street, Flushing, N. Y.

G. M. Pomeroy, formerly assistant superintendent of the Harrisville Paper Company, has become superintendent of the paper mill of the Cherry River Paper Company.

Edwin Sutemeister, chief chemist of S. D. Warren Company, is temporarily located at Port Angeles, Washington, where he is doing work for the Olympic Forest Products Company.

George R. K. Moorhead, formerly chief chemist of the Oregon Pulp and Paper Company, Salem, Ore., has been promoted to the position of night sulphite mill superintendent.

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Prepared by Clarence J. West, Chairman, Committee on Abstracts and Bibliography.

The page numbers in the following index refer to the continuous paging of the Technical Section and have no relation to the paging of the individual numbers of the PAPER TRADE JOURNAL.

References to the abstracts are preceded by the letter A and those to the patents by the letter P. Other entries refer to original articles appearing in the Technical Section; the author entries for these articles are given in CAPITALS. No author entries are given for the abstracted articles or patents.

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Delaware Valley Section Discusses Mill Location

The second regular meeting of the Delaware Valley Section of the Technical Association of the Pulp and Paper Industry was, if anything, more interesting, enthusiastic and successful than its first meeting held in November. Under the able chairmanship of W. R. Maull, vice president of Dill & Collins Company, the section met at the Engineers Club on Spruce street, Philadelphia, on Thursday evening, January 14 at 6:30 P.M.

Following an excellent dinner the chairman introduced W. M. Shoemaker, secretary of the National Vulcanized Fibre Company, Yorklyn, Del., who briefly reviewed the types of losses that technical men should be familiar with in the pulp or paper mill. These include losses of fiber in water leaving the mill, losses in heat and power, losses due to trim and mill accidents and losses in efficiency due to management and personnel.

Joseph Plumstead, manager of Jessup & Moore Paper Company, Wilmington, Del., discussed the subject of stock losses and pointed out that it is necessary to determine optimum operating conditions for each individual mill. Figures obtained from various mills show that shrinkage due to various operations differ for different mills, dusting and sorting for example, may account for from 1 to 12 per cent shrinkage while washing, cooking and bleaching may vary from 15 to 40 per cent. In the case of each unit of equipment it is necessary to inquire as to which type of construction gives the desired service. In cooking it is necessary to decide what temperature, pressure and time of cooking gives the best results. In indicating the relationship between plant operation and laboratory experiments in cooking, Mr. Plumstead cited a case wherein the radiating surface of an experimental digester was 125 times as great as the mill digester, expressed in pounds of raw material. Such factors need to be considered in research work leading to mill applications.

General Discussion

Following Mr. Plumstead's remarks the meeting was thrown open for general discussion. A question that interested several was in regard to the action of lime in washing rags, in particular. Several were of the opinion that in addition to being a cooking agent, the lime supplied a detergent in the form of calcium carbonate. Others told of experiences they had in which they added other solids such as clay which adsorbed greases, colors, etc. Others discussed the so called invisible shrinkage due to gelatinizing of cellulose in the beater and the formation of slime. Various chlorination schemes were suggested as means of preventing slime formation. The concensus of the meeting was that a thorough survey should be made in every mill to learn where the losses are and measures should be then taken to reduce these where feasible. In this connection the point was brought up that in eliminating losses the cost of such elimination must also be considered.

J. B. White, superintendent of the National Vulcanized Fibre Company, indicated how he had made a saving of nearly a thousand dollars a year for his company by substituting anti-friction roller bearings for plain bearings in his rag cutters.

Hugo H. Hanson, manager of W. C. Hamilton & Sons, Miquon, Pa., told of an experience he had in endeavoring to remove oil from white oilies, a cloth used in textile mills to wipe oil off machines. This was effected by the use of lime.

G. J. Landt, technical director of the Continental Diamond Fibre Company, stated that the problem of treating rags is largely one of cleansing them. He also indicated the great variability that exists in rag cooking losses due to differences in the raw materials used. He indicated that it is very necessary to make a good selection of rags and he believes that the viscosity test will tell more than anything else how the cellulose raw materials will submit to cooking and other operations.

James Ramsay, superintendent of Jessup & Moore Paper Company, stated that steel tackle can be depended on to give the freest stock and the addition of clay or asbestine filler will give a cleaner product.

Mr. Hanson indicated a test he made gave the following data for paper machine losses: suction boses 4 per cent, presses and suction rolls 2.1 per cent, save-all overflow .5 per cent, machine and chest wash up due to order changes .25 per cent, beater room .25 per cent, save-all tray wash up .25 per cent, making a total of 8 per cent. The pulp used had 10 per cent moisture and the paper made had 5 per cent, thereby accounting for a 5 per cent loss. The introduction of an Oliver save-all, however, cut these losses 75 per cent. The paper as shipped, not counting wrapper weight represented at 83⅓ per cent yield.

H. P. Cannon, technical director of the Container Corporation of America, outlined a test he made of a cylinder machine. 700 to 1,200 g. p. m. of water went to the sewer. The felt showers required 500 g. p. m. which contained when sent to the sewer 3.9 pounds per 1,000 gallons. The total loss was .75 per cent of the production. He also stated that heat losses in the white water might run to $100 per month.

A. W. Wickham, superintendent of MacAndrews & Forbes, paper mill, Camden, N. J., described the felt shower water system on his machine in which the pH of the water is maintained at 6.6 and contains 2 parts per million of chlorine to keep it sterilized. He found that previously he had trouble from CO_2 produced from algae. These are now destroyed by chlorine. J. C. Schmidt and R. W. Richardson of du Pont, told about the new chlorine and ammonia treatment to prevent slime.

The last speaker of the program was Walter L. Fitzgerald, a personnel counsellor who reviewed employment problems, pointing out that most failures in so far as personnel is concerned lies with the plant managers, who hire men and are responsible for training them. It costs $50 to $200 to hire and fire a skilled mechanic and $1,000 to $5,000 to hire and fire an executive receiving at least $300 per month. Every mill manager should be familiar with the latent talent in his organization in the same way that every man in the army is cataloged. A card inventory system of man power should exist in every mill and a strict accounting from department heads should be expected for every man discharged. The ideal arrangement would be to have every man employed and discharged by one individual who is devoting all of this thought to human relationship.

Among Those Present

Those present included: E. J. Albert, Thwing Instrument Company; H. C. Brakewood, Scott Paper Company; Roy E. Bare, York Haven Paper Company; O. C. Cordes, Westinghouse Electric & Mfg. Company; A. M. Cooper, same company; L. W. Carpenter, Container Corporation of America; H. P. Cannon same company; J. C. Dieffenderfer, Paper Makers Chemical Corporation; William Evans, Doll & Collins Company; Jacob Edge, Downingtown Mfg. Company; J. H. Fritz, Dill & Collins Company; S. M. Hesser, Hinde & Dausch Paper Company; H. H. Hanson, W. C. Hamilton & Sons; J. C. Harper Jr., West Jersey Paper Mfg. Company; J. H. Hazelwood, Barber Asphalt Company; Leslie Justice, Container Corporation of America; William Jay, Sanitary Products Company; V. Jacobson, National Aniline & Chemical Company; J. R. Kessler, formerly with Glassine Paper Company; C. E. Kinney, Hercules Powder Company; John I. Kelley, formerly Moore & White Company; C. J. Kern, Moore

(Continued on page 50)

POWER PLANT SECTION

REDUCING POWER COSTS THROUGH UNIT TREATMENT

Conducted by Reginald Trautschold Consulting Engineer

Lubrication Costs*

Fruitful Field for Effecting Economies

Satisfactory pulp and paper mill lubrication practice is a consideration of outstanding importance in economical production, yet it is one concerning which the average mill is, at best, poorly informed. This is not at all surprising, in view of the complexity of the problem entailed, but the beneficial results obtained from correct lubrication practices are so very pronounced that no mill can afford to overlook the fruitful field of lubrication in striving for production economies. Unceasing efforts should be made, on the other hand, to improve the methods of lubrication employed; to make better selections of lubricants and to apply them more effectively.

The results to be obtained, the objectives of lubrication, are: maintenance and upkeep costs reductions; curtailment, if not the entire elimination, of interrupted production due to enforced shutdowns; reduction in power consumption; and the minimizing of lubrication costs. Lubrication may not be the dominating consideration in the attainment of these objectives, it is perfectly true, and the mill's operating force does strive at all times to hold down repair expenses and to keep the machine equipment in productive operation, but the correctness of the lubrication provided exerts much influence in effecting the desired results. The part played by lubrication in holding the consumption of power is also hard to ascertain, for the type and conditions of the machines used, the variety of paper produced and countless other considerations have to be taken into account.

The amount of power required to operate a paper machine making the same grade of paper, at the same speed, may vary greatly, for example, the quality and condition of the stock going to the machine and press rolls introducing complications. The difference in power consumption, furthermore, cannot be measured dependably merely by differences in journal temperatures, for the mechanical condition of the bearings is an important factor. Also, the grade of bearing material, workmanship, proper grooving, alignment, tightness of belts and many other considerations carry weight. In fact, it is well nigh impossible to tell where the influence of these factors ends and the influence of the correct selection of lubricant and its proper application begins.

With the well known relationship existing between cause and effect, however, a dependable measure of the effectiveness of lubrication is provided by the success with which its objectives are realized. That is to say, the mill that is operated without contracting excessive maintenance and replacement expenses, with little or no interruptions to productive activity occasioned by enforced shutdowns, and is economical in the consumption of power, is in all likelihood, also employing lubrication practices of a fairly high order. Good operating efficiency and uninterrupted production are indices, then, of correct lubrication practices.

These units of measure are also the objectives striven for by the operating department of the well directed mill, objectives that can never be entirely realized and in which lubrication practice is simply a contributing aid. This is generally appreciaed, naturally, although it is not always realized how important a part may be played by lubrication, or that correct lubrication is merely a comparative term, no more attainable in practice than 100 per cent mechanical efficiency in mill operation. An approach to the very desirable condition of correct lubrication is all that can actually be consummated and it is for this reason that no matter how free a mill may be from repair and upkeep expense burdens, from interruptions to productive activity and economical in the use of power there is always the possibility of effecting still further economies and improvements in lubricating practices.

Lubricant Recommendations

The leading lubricant producers have given much study to so-termed correct lubrication practices for pulp and paper mills; in mill, power plant and yard services; and some of them are unquestionably in a position to advance general recommendations of value in the selection and application of high grade lubricants. Some excellent "lubrication charts" have been evolved to aid the mills in their efforts to introduce correct lubrication practices. On one of the best of these charts, one covering the lubrication requirements of equipment employed in wood preparation, pulp, wet machine and beater, rag and old paper, paper machine, machine basement and finishing departments of a composite and self-contained plant, lists fourteen varieties of lubricants and two hundred and fifty-five individual applications. For certain applications more than one lubricant is recommended, but for the most part one of the fourteen is deemed sufficient, as determined by exhaustive investigations on the part of the lubricant producer. One or two of these special lubricants are well suited for use in the steam and power plant, though several other varieties are required as well. The same holds true in connection with the lubricant requirements of the wood yard, coal dock, shop and bleach plant equipment. Even the wrapping mill has need for certain oils and greases for lubrication purposes. Altogether, quite a com-

* For previous discussions on lubrication see PAPER TRADE JOURNAL, Jan. 26, 1928, Jan. 17, 1929, July 4, 1929 and Aug. 21, 1930.

plex situation is presented when it comes to making the best adaptation of lubricant to the service required, whether the selection is made by the mill or the lubricant producer.

Lubrication charts such as the one described for the lubrication requirements of the mill proper are extremely valuable, however, as guides in the selection of suitable lubricants for *classes of applications*, rather than for specific applications. That is, they serve as an excellent basis for class selections and it is highly probable that any mill patterning its lubrication practices in strict accordance with the recommendations advanced would obtain very satisfactory results. Still better results can be secured, nevertheless, a closer approach made to correct lubrication practice, by going into the problem still further. However, no lubrication chart can be devised that can provide the information needed for discovering the refinements, modifications and advisable variations in lubrication practices that are frequently found expedient. Information of this character can only be acquired through the wide and varied experience of the qualified lubrication engineer expert.

A further confirmation of this is to be found in the fact that the lubrication charts of even the most experienced and best informed lubrication producers do not agree in all respects, so far as the chemical and physical specifications of the lubricants recommended are concerned. Where such variations exist, it is obvious that the results with the different lubricants cannot be identical. One must be better than the others under certain circumstances.

It is the province of the lubrication engineer to establish this superiority of the suitable lubricant for a specific service application and the probablities are that, if he is really an expert, he can do so. Certainly, with his broad and extended experience in all phases of lubrication, he is better qualified to pass upon such questions than the operating engineer who is engaged primarily, perforce, with securing the best attainable results from the mill's equipment. The lubrication engineer, the qualified expert on lubrication, bases his recommendations upon the same groundwork of painstaking investigation and operating data as are recorded upon the lubrication chart and works forward, utilizing his familiarity with lubricants and their behavior under all kinds of conditions to develop refinements and modifications that will advance the required lubrication service closer to the goal of correct lubrication practice. His work may be said to commence where that of the operating engineer leaves off and, with improvement in the lubrication practice invariably possible, he can be of great assistance to any mill in reducing its lubrication costs and in approaching a step nearer to the common objectives of correct mill lubrication and economical mill operation.

Examples of Lubrication Economies

Evidence in support of the value to pulp and paper mills of following the recommendations of qualified lubrication engineers is exceedingly plentiful. The ten instances of economies effected listed in the accompanying table, for example, are quite typical and not at all unusual. In each case, it will be noted, a very desirable decrease in lubrication costs has resulted, substantial economies have been effected. Incidentally, it is reasonable to assume that in each case lubrication practice was of a fairly satisfactory order before consultation with the lubrication engineer, for it is rarely the mill where lubrication practices are really bad that calls in the expert. On the contrary, it is usually the mill that has by its own efforts attained a relatively high rank in respect to operating efficiency and reliability that turns to the expert for advice, in an effort to acquire the aid that will elevate standards of accomplishments a few more points.

LUBRICATION COST DATA STATISTICS

Mill	*Economies Effected*
(1)	Lubrication costs reduced from 16.3 to 7.7c per ton of paper.
(2)	Lubrication troubles eliminated.
(3)	Lubrication costs reduced from 26 to 5c per ton of paper.
(4)	Lubrication costs cut in half.
(5)	Marked reduction in consumption of oil.
(6)	Lubrication costs reduced from 26.3 to 10.4c per ton of paper.
(7)	Maintenance and lubrication costs reduced $1,200 per year.
(8)	Lubrication costs reduced from 13.8 to 9.3 to 6.6c per ton of paper.
(9)	Saving of 50 per cent in oil consumption.
(10)	Overall economies of $1,200 per year realized.

Standard Oil Company (Indiana).

At the first of these listed mills, the cost of lubrication on two paper machines had been running 16.3 cents per ton of paper produced, which in many a mill would have been considered far from excessive, but in this mill it was felt that even lower costs were obtainable and a lubrication engineer was consulted. He recommended that the oil boxes be revamped on certain sections of the machines, a circulating oil system be devised for the drier section and that the lubricants be applied according to a procedure he advocated. These suggestions were followed to the letter, with the result that immediately the necessary changes had been made the lubrication costs per ton of paper dropped to 7.7 cents and have remained at this low figure consistently, with only very slight variations. On a daily output of only 100 tons per machine, this means a net annual saving of better than $5,000.00.

In the case of the second mill, the lubrication consultant recommended a change in the lubrication practice for the drier journal bearings of one of the machines. Each drier roll on this machine weighed approximately 13 tons, placing upon the journal bearings a total revolving load of some 750 tons, turning at a speed of only 58 revolutions per minute. To stand-up and function successfully under such great pressure, the engineer advised the use of a fine quality, heavy bodied oil of 75 to 80 Saybolt viscosity at a temperature of 210 degrees Fahrenheit. This special lubricant was adopted and so successfully applied that, despite the heavy load, high temperatures developed and the comparatively low speeds of revolution, no bearing difficulties of any kind have developed on this drier section in eight years of continuous operation, from Monday morning to the following Sunday morning each week.

The third of the listed examples pertains to a mill where a paper machine having a capacity of 70 tons per 24 hours had been contracting a lubrication cost of 26 cents per ton of paper produced. This being considered high, a survey was made and the engineer called in recommended a new lubricating practice making use of automatic devices for the application of lubricant. This advice was followed and the lubrication cost per ton of paper was literally slashed to 5 cents.

At the mill where lubrication costs were cut in half, the same oil that has proved so satisfactory for the drier journal bearings under a pressure of 750 tons was recommended and adopted for the heavy journal bearings on the drier section of a large paper machine and in a period of six years there has been no trouble in the eminently efficient lubrication of the bearings. In fact, it is held that the use of this lubricant properly applied has been responsible for a 50 per cent reduction in lubrication costs.

The next example refers to the experience of a mill that followed a plan of lubrication devised and recommended by a lubrication engineer consulted with the view of effecting a reduction in consumption of lubricating oil. Following the advice of the engineer, the consumption of oil was reduced by 750 gallons during the first month, by 910 gallons the second, and by 1,050 the third month.

The experience of the sixth mill has been a reduction in lubrication costs of 60 per cent, by following the recommendations of a lubrication consultant. Such charges against a paper machine of 50 ton capacity dropped from 26.3 to 10.4 cents per ton of paper produced. One of the most interesting and somewhat unusual economies effected is, however, in the case of the next of the listed mills, where maintenance and lubrication costs are reputed to have been reduced $1,200.00 per year.

In this latter instance, the paper mill had been having difficulty with the lubrication of friction blocks on five rewinders. The engineer consulted advanced the somewhat startling opinion that a method of lubrication could be devised that would eliminate the use of any petroleum product and permit the employment of water as the lubricant, in place of the grease formerly used. The scheme was put into effect, with the result that the maintenance and lubrication costs on these rewinders has been reduced $100.00 a month.

In the case of the mill showing a double reduction in lubrication costs, the lubrication costs had been running 13.8 cents per ton of paper produced. A change in the brand of oil used was made in the following year and in the second year, when the change over had been fully completed, the lubrication costs per ton of paper produced dropped to 9.3 cents and a year later were further reduced to the exceptionally low figure of 6.6 cents per ton of paper produced.

The experience of the mill listed next is a case where a more expensive brand of oil proved quite an economy. Difficulty had been experienced in the lubrication of the bearings on super-calenders with a brand of oil costing 40 cents per gallon. At the recommendation of a lubrication engineer, it was decided to try another brand of oil, the expert advising the use of an oil costing 46 cents per gallon. This more expensive oil, not only overcame the difficulty, but stood up so much better than the cheaper oil that oil consumption was reduced 50 per cent and lubrication costs 42.5 per cent.

At the last of the listed mills, more or less trouble had been encountered in the cylinder lubrication of a twin piston valve, 1,500 horsepower, engine running at 125 revolutions per minute and directly connected to an electric generator. It seems that, despite the large size of the cylinders, this engine was not equipped with tail rod supports for the pistons and the lubrication supplied to the cylinders was insufficient, or unsuitable, resulting in a shutdown for reboring the scored cylinders, replacing the piston rings and for repacking. Following this costly overhauling, at the suggestion of a lubrication engineer, a change was made in the variety of cylinder lubricant employed, with the result that the trouble has apparently been overcome, as the engine has now been running smoothly for the past few years. This economy effected in the power plant is credited with having contributed largely to an overall saving in mill operation amounting to $100.00 per month.

New Varieties in Lubricants

In addition to the reduction in lubrication costs that is always possible through better selection of lubricants and improvements in their application, such as in the instances of the ten experiences just cited, progress is being made continually in lubricants, developments made to meet changes in equipment employed and the lubricant demands so created. One of the most significant changes of this character taking place in paper mill equipment, to meet which new lubricants are now available, is the rapidly growing use of individual electric drives and the replacement of reciprocating engines with steam turbines for electric power generation. The development in lubricants brought about by the greatly extended use of these efficient steam power units is a non-deteriorating variety of turbine oil, the use of which is claimed to effect marked reductions in lubricating costs. The new variety of lubricant is claimed to eliminate the necessity of changing oil, to overcome difficulties resulting from the deterioration of other oils and to avoid the cleaning expense attendant to the use of less stable oils.

The acidity of used turbine oil is commonly taken as an index of deterioration and is usually expressed as the number of milligrams of potassium hydroxide required to neutralize the acid in a gram of oil, the index also evaluating the oil from the standpoint of rapid separation from water. When the acidity of the oil, so measured, is in the vicinity of 0.3 milligrams of potassium per gram of oil, the rate at which it will separate from water is considered fair, but when the acidity increases to 0.5 or 0.8 milligrams of potassium per gram of oil, the demulsibility is considered very poor and steps are usually taken to change the oil.

Analyses of samples of the non-deteriorating variety of oil taken from steam turbines in service in paper mill power plants give the startling indications of its stability posted in the following table:—

STABILITY OF NON-DETERIORATING TURBINE OIL

Sample taken from	Oil Capacity	Filter System	Oil in Use	Acidity mg. KOH/gram
5,000 kilowatt turbine	250 gal.	Continuous	7 months	0.06
2,500	600	None	13	0.009
2,000		None	16	0.11
6,000	245	None	14	0.06

Standard Oil Company (Indiana).

The large economies a record of this character promise is very obvious when the acidity records are compared with those of ordinary high grade turbine oils under like periods of use, which are reported to be:

7.5 months in use	0.75 mg. KOH/gram
12	0.40
6.5	0.21
18	0.86

There are said to be cases where non-deteriorating turbine oils have been in continuous service for over four years and to have developed an acidity in such time no greater than is usually developed by the customary high grade turbine oil in a single month of service. The use of a lubricant possessing such qualities of stability will effect very marked reductions in lubrication costs, obviously, in any plant.

Consultation With Lubrication Engineers

In discussing lubrication costs in this manner, the object has been to impress the establishments of the paper making industry with the fact that reductions in lubrication costs with resulting economies of high order are always possible. The value of unceasing efforts to lower lubrication costs by the employment of more suitable lubricants and by improved applications of lubricants has been stressed to focus attention upon the wisdom of consultations with qualified lubrication experts.

Where mills employ operating engineers well versed in lubrication economies and attain relatively high rankings in operating efficiency and in freedom from interruptions in production activities traceable in any way to mechanical difficulties, consultation with well informed lubrication engineers is particulary important, when further improvements appear unattainable. The more satisfactory a mill's lubrication practice appears to function, the more active should be efforts to discover ways and means of realizing additional improvements and, in this connection, attention should never fail to be directed to the possibilities of ap-

proaching closer to the ideal of correct lubrication practice.

Of course, when a new lubricant appears on the market and its superiority to lubricants in use for like services is shown by marked reductions in lubrication costs in trustworthy applications, its early trial by a mill is to be recommended, even though the best attainable results may not have yet been obtained with the lubricant previously deemed suitable. The opportunities of effecting decidedly worthwhile economies in the field of lubrication, reflected in betterment in overall economy in mill operation, are altogether too promising to overlook any possibility of profitably reducing lubrication costs.

Boston Paper Trade Happenings

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., January 18, 1932—At a recent meeting of the Andrews Paper Company, the following officers were elected: Frank H. Merrill, president and treasurer; Frank C. Cate, vice-president and secretary, and Edward A. Morton, assistant treasurer. The late John F. Kuster was the former treasurer.

Frank F. Spaulding, president of Spaulding & Tewksbury Company, box board dealers, and Miss Miriam Wiggin, of Tewksbury, were married Tuesday. They sailed on their honeymoon on a trip including Central America, Porto Rico, Havana and Panama, expecting to be away about a month. Mr. and Mrs. Spaulding have the best wishes of all.

Harry M. Cranmer is planning to mail to the trade a sample book of a new line of box papers, Boston Brilliance, in eight attractive colors.

W. L. Chadwick, director of sales of the United Paperboard Company, is in Boston for a number of days, visiting the local office of the company.

Charles W. Morrison, head of the board department of the Robert Gair Company, who has been ill at a Haverhill Hospital, is able to be at the mill in that city a few hours each day.

Col. Walter M. Pratt, of the Pratt Paper Company, has returned from a trip to South America.

"As We See 1932," written with optimism and containing a few suggestions, is the leading article in "How," published by Tileston & Hollingsworth Company, edited by A. V. Howland. Other articles of an inspirational and thought-compelling character are among the features of the publication. The issue is printed on Milton cover, India and Dorchester Plate paper, white.

DELAWARE VALLEY SECTION MEETS

(Continued from page 46)

& White Company; A. J. Luettgen, York Haven Paper Company; G. J. Landt, Continental Diamond Fibre Company; W. R. Maull, Dill & Collins Company; G. B. Martin, General Dyestuff Corporation; Russell Morehouse, Philadelphia Quartz Company; Charles McDowell, McDowell Paper Mills; R. G. Macdonald, Secretary TAPPI; J. McCalmont, Dill & Collins Company; H. W. Pequet, MacAndrews & Forbes; J. E. Plumstead, Jessup & Moore Paper Company; C. E. Peterson, Riegel Paper Corporation; W. M. Shoemaker, National Vulcanized Fibre Company; C. W. Rivise, patent attorney, Philadelphia; R. W. Richardson, DuPont Company; J. G. Ramsey, Jessup & Moore Paper Company; J. Carl Schmidt, duPont ompany; E. T. Street, Downingtown Mfg. Company; H. C. Schwalbe, Dill & Collins; R. H. Stagemyer, Penn Fibreboard Corporation, B. M. Thomas, Container Corporation of America; J. B. White, National Vulcanized Fibre Company; A. W. Wickham, MacAndrews & Forbes.

New York Trade Jottings

Col. C. H. L. Jones, president and general manager of the Mersey Paper Company, Ltd., Liverpool, Nova Scotia, was a New York visitor last week.

* * *

Star Paper and Twine Company has been incorporated under the laws of the State of New York with a capital stock of $5,000. J. Linett, 17 John street, New York, was the attorney.

* * *

Howard Paper Company, of Urbana, Ohio, has recently added many new representatives for Howard Bond, Ledger and Mimeograph, including one New York paper merchant, F. W. Anderson & Co., of 16-18 Beekman street.

* * *

The Eastern Division of the Salesmen's Association of the Paper Industry held its regular weekly luncheon and meeting at George's Restaurant, New York, on Tuesday. Present day marketing conditions and trends were freely discussed, many of those present taking part in the proceedings.

* * *

J. D. Zellerbach, president of the National Paper Products Company and Fibreboard Products, Inc., and vice-president of the Rainier Pulp and Paper Company and the Washington Pulp and Paper Corporation, is in town this week.

* * *

The Federal Trade Commission has advised the executive secretary of the Waste Paper Institute that a request made by the Institute that the Trade Practice Conference already authorized for the Waste Paper Industry to be held on Monday, March 14 in New York, could be held on that date. In view of the fact that the National Association of Waste Material Dealers, Inc., and all its various Divisions, will be in session in New York from March 14 to 16 inclusive, there is every reason to believe there will be a large number of waste paper dealers and packers who will plan to attend both the convention and the Trade Practice Conference.

* * *

The National Association of Waste Material Dealers, Inc. will hold a special meeting at the Hotel Astor, New York, on Tuesday afternoon, February 2, at 2 o'clock, for the purpose of presenting to its membership certain proposed changes in the Constitution and By Laws which have been approved by the Board of Directors and if adopted at the Annual Meeting of the association to be held in March, will make it possible for each division of the association to function with almost complete autonomy and will also provide for what will be known as chapter memberships, available to those who only desire to be affiliated with local or territorial chapters.

Austin Co. Issues Useful Booklet

The Research Department of the Austin Company, architects, engineers and builders, of 16112 Euclid Avenue, Cleveland, Ohio, has recently published a booklet entitled "101 Questions That Should be Answered Before You Build." This booklet has become very much in demand because it contains useful data otherwise unavailable. While intended primarily to help the executive who is face to face with a building project, the booklet also raises questions, the answers to which are important to executives having building operations farthest from their minds. The booklet is available to executives without obligation.

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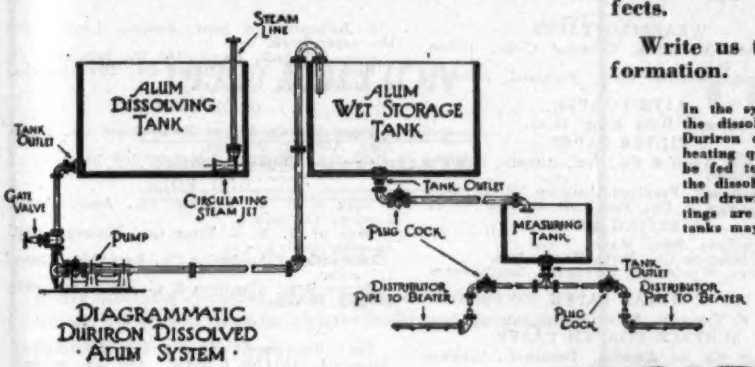

DIAGRAMMATIC DURIRON DISSOLVED ALUM SYSTEM

In the system diagrammed to the left, dry alum is fed to the dissolving tank. The dissolving tank is fitted with a Duriron circulating steam jet, the resulting circulation and heating quickly reducing the alum to a solution. This may be fed to the beaters through measuring tanks direct from the dissolving tank, or it may be pumped to a storage tank and drawn out as needed. All pumps, valves, pipe and fittings are of Duriron. Dissolving, storage, and measuring tanks may be metal or wood and fitted with Duriron outlets.

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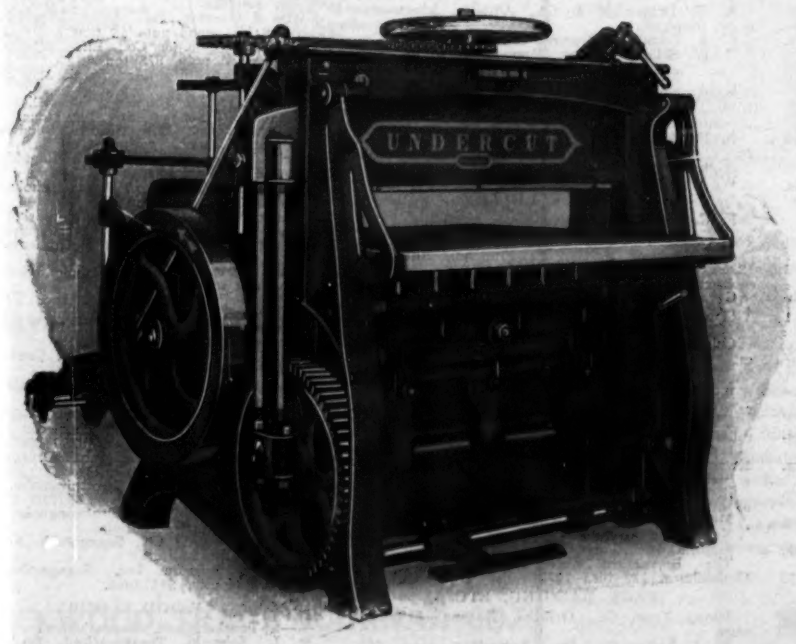

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IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

SUMMARY

WEEK ENDING JANUARY 16, 1932

Cigarette paper.....1395 cs.
Wall paper.....27 bls., 1 cs.
Paper hangings.....3 bls., 2 cs.
Painted paper.....1 cs.
News print.....13,344 rolls
Printing paper.....9 rolls
Wrapping paper.....30 bls., 12 cs.
Litho-paper.....10 cs.
Filter paper.....48 bls., 100 cs.
Writing paper.....7 cs.
Metal paper.....5 cs.
Surface coated paper.....111 cs.
Basic paper.....10 cs.
Velvet paper.....15 cs.
Photo paper.....3 cs.
Glazed paper.....4 cs.
Decalcomania paper.....21 cs.
Transfer paper.....1 cs.
Tissue paper.....17 cs.
Glazed cellulose.....6 cs.
Card board.....92 pkgs., 22 cs.
Paper board.....10 cs.
Miscellaneous paper....1814 rolls, 219 bls., 107 cs.

CIGARETTE PAPER

Champagne Paper Corp., Rochambeau, Havre, 85 cs.
Liggett & Myers Tobacco Co., Rochambeau, Havre, 17 cs.
Standard Products Corp., Rochambeau, Havre, 35 cs.
American Tobacco Co., Paris, Havre, 800 cs.
Champagne Paper Corp., Paris, Havre, 21 cs.
Liggett & Myers Tobacco Co., Paris, Havre, 25 cs.
Standard Products Corp., Paris, Havre, 167 cs.
Brown & Williamson Tobacco Co., Pennland, Antwerp, 10 cs.
Brown & Williamson Tobacco Co., Berengaria, Southampton, 10 cs.
Champagne Paper Corp., Schodack, Havre, 225 cs.

WALL PAPER

R. F. Downing & Co., Kwanto, Kobe, 8 bls.
R. F. Downing & Co., Berengaria, Southampton, 1 cs.
F. A. Binder, Donau, Bremen, 19 bls.

PAPER HANGINGS

W. H. S. Lloyd & Co., Ausonia, London, 3 bls., 1 cs.
Whiting & Patterson Co., Inc., Ausonia, London, 1 cs.

PAINTED PAPER

Hudson Forwarding Co., Rochambeau, Havre, 1 cs.
Hudson Forwarding Co., Paris, Havre, 1 cs.

NEWS PRINT

——, Tonsbergfjord, Oslo, 288 rolls.
Perkins, Goodwin & Co., Amer. Importer, Hamburg, 342 rolls.
Jay Madden Corp., Amer. Importer, Hamburg, 99 rolls.
Gilman Paper Co., Ragnhildsholm, Norrkoping, 494 rolls.
Chase National Bank, Carlsholm, Gothenburg, 112 bls.
Bank of Montreal, Humberarm, Cornerbrook, 10435 rolls.
Perkins, Goodwin & Co., Donau, Bremen, 72 rolls.
Jay Madden Corp., Donau, Bremen, 1119 rolls.
Parsons & Whittemore, Inc., Donau, Bremen, 155 rolls.
——, Donau, Bremen, 84 rolls.
A. S. Zabriskie, Sagoporack, Kotka, 45 rolls.
——, Sagoporack, Kotka, 409 rolls.

PRINTING PAPER

American Express Co., Cameronia, Glasgow, 9 rolls.

WRAPPING PAPER

National City Bank, Cristobal Colon, Bilbao, 30 bls., 1 cs.
Sylvania Industrial Corp., Pennland, Antwerp, 12 cs.

LITHO PAPER

——, Irisbank, Hong Kong, 10 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Ausonia, London, 6 cs.
J. Manheimer, Pennland, Antwerp, 48 bls., 3 cs.
E. Fougera & Co., Pennland, Antwerp, 91 cs.

WRITING PAPER

M. Picciotto, Paris, Havre, 3 cs.
Titan Shipping Co., Paris, Havre, 3 cs.
Meadows, Wye & Co., Berengaria, Southampton, 1 cs.

METAL PAPER

——, E. Francqui, Antwerp, 5 cs.

SURFACE COATED PAPER

Gevaert Co. of America, Pennland, Antwerp, 111 cs.

BASIC PAPER

Globe Shipping Co., Bremen, Bremen, 10 cs.

VELVET PAPER

K. Pauli Co., Pennland, Antwerp, 15 cs.

PHOTO PAPER

Titan Shipping Co., Pennland, Antwerp, 1 cs.
J. J. Gavin, Berengaria, Southampton, 2 cs.

GLAZED PAPER

Richardson Bros., Adriatic, Liverpool, 4 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Adriatic, Liverpool, 6 cs. (duplex).
L. A. Cosmiller, Bremen, Bremen, 6 cs.
C. W. Sellers, Bremen, Bremen, 9 cs.

TRANSFER PAPER

Manhattan Decalcomania Co., Bremen, Bremen, 1 cs.

TISSUE PAPER

B. F. Drakenfeld & Co., Adriatic, Liverpool, 1 cs.
H. Kayser fils, Paris, Havre, 13 cs.
W. J. Byrnes, Berengaria, Southampton, 3 cs.

GLAZED CELLULOSE

F. C. Strype, Augustus, Genoa, 6 cs.

CARD BOARD

Coy, Disbrow & Co., E. Francqui, Antwerp, 18 cs.
American Express Co., Paris, Havre, 92 pkgs.
Gevaert Co. of America, Pennland, Antwerp, 4 cs.

PAPER BOARD

Colmar Paper Corp., Pennland, Antwerp, 10 cs.

MISCELLANEOUS PAPER

Rohner, Gehrig & Co., Rochambeau, Havre, 4 cs.
Lunham & Reeve, Carlsholm, Gothenburg, 42 rolls, 92 bls.
Japan Import & Export Commission Co., Kwanto Maru, Kobe, 5 cs.
Steiner Paper Corp., Kwanto Maru, Kobe, 1 cs.
R. Wilson Paper Corp., Cameronia, Glasgow, 69 cs.
Meadows, Wye & Co., Ausonia, London, 8 cs.
Keller, Dorian Paper Co., Paris, Havre, 3 cs.
Simfred, Inc., Paris, Havre, 17 cs.
The Borregaard Co., Inc., Drottningholm, Gothenburg, 127 bls., 1772 rolls.

RAGS, BAGGING, ETC.

Irving Trust Co., Orizaba, Havana, 119 bls. rags.
E. J. Keller Co., Inc., Sacandaga, ——, 361 bls. flax waste.
Castle & Overton, Inc., Amer. Importer, Hamburg, 87 bls. rags.
S. Birkenstein & Sons, Coldbrook, B. Ayres, 92 bls. jute waste; 75 bls. rags.
——, Adriatic, Liverpool, 11 bags waste paper.
S. Birkenstein & Sons, Ausonia, London, 100 bls. paper stock.
——, Schodack, Havre, 160 bls. bagging.
Bank of N. Y. & Trust Co., Drottningholm, Gothenburg, 67 bls. rags.

GLUE STOCK

Trans-Atlantic Animal By-Products Co., Sacandaga, Antwerp, 50 bags.
——, E. Francqui, Antwerp, 105 bags.

OLD ROPE

Bank of N. Y. & Trust Co., Amer. Trader, London, 125 coils.
Bank of N. Y. & Trust Co., Marengo, Hull, 82 coils.
International Purchasing Co., Excambion, Genoa, 177 coils.
Brown Bros., Harriman & Co., Cristobal Colon, Coruna, 31 coils.

WOOD PULP

The Borregaard Co., Inc., Tonsbergfjord, Sarpsborg, 150 bls. sulphite; 600 bls. sulphate.
Atterbury Bros. Inc., Tonsbergfjord, Oslo, 900 bls. sulphite.
Chemical Bank & Trust Co., Tonsbergfjord, Oslo, 5400 bls. sulphite.
E. M. Sergeant & Co., Tonsbergfjord, Oslo, 150 bls. wood pulp.
Parsons & Whittemore, Inc., Tonsbergfjord, Oslo, 250 bls. mechanical pulp.
J. Andersen & Co., Tonsbergfjord, Oslo, 250 bls. sulphite.
E. J. Keller Co., Inc., Tonsbergfjord, ——, 289 bls. mechanical pulp.
Atterbury Bros., Inc., Tonsbergfjord, Halden, 600 bls. sulphite.
Castle & Overton, Inc., Amer. Importer, Hamburg, 368 bls. wood pulp 55 tons.
Bulkley, Dunton & Co., Elise Schulte, ——, 4375 bls. wood pulp, 878 tons.
——, Elise Schulte, Hernosand, 3600 bls. sulphite, 600 tons.
Johaneson, Wales & Sparre, Inc., Elise Schulte, Sundsvall, 5273 bls. sulphite, 1048 tons.
Mead Sales Co., Elise Schulte, Sundsvall, 125 bls. sulphite, 25 tons.
Pagel, Horton & Co., Inc., Ragnhildsholm, Gefle, 4125 bls. sulphite.
Stora Kopparberg Corp., Ragnholdsholm, Skutskar, 1850 bls. wood pulp.
Perkins, Goodwin & Co., Ragnhildsholm, Wilstavarf, 2500 bls. sulphate; 1375 bls. sulphite.
J. Andersen & Co., Carlsholm, Gothenburg, 500 bls. wood pulp.
E. M. Sargeant & Co., Carlsholm, Gothenburg, 598 bls. kraft soda pulp.
Johaneson, Wales & Sparre, Inc., Carlsholm, Gothenburg, 598 bls. kraft soda pulp.
Gotteaman & Co., Inc., Carlsholm, Gothenburg, 525 bls. sulphite.
Stora Kopparberg Corp., Malmen, Sweden, 2250 bls. wood pulp.
Price & Pierce, Ltd., Malmen, Sweden, 2100 bls. sulphite.
——, Malmen, Sweden, 2375 bls. sulphate.
——, Malmen, Sweden, 400 bls. wood pulp.
Pagel, Horton & Co., Inc., 6750 bls. sulphate.
Parsons & Whittemore, Inc., Drottningholm, Gothenburg, 720 bls. sulphate.
Perkins, Goodwin & Co., Drottningholm, Gothenburg, 339 bls. sulphate.
E. M. Sergeant & Co., Drottningholm, Gothenburg, 598 bls. kraft soda pulp.
Lagerloef Trading Co., Sagoporack, Kotka, 260 bls. wood pulp, 52 tons.
Castle & Overton, Inc., Sagoporack, Kotka, 1205 bls. sulphite, 241 tons.

WOOD FLOUR

——, Tonsbergfjord, Frederickstad, 859 bags.
B. L. Soberski, Tonsbergfjord, Frederickstad, 1500 bags.

WOOD PULP BOARDS

Lagerloef Trading Co., Sagoporack, Kotka, 705 bls., 66 tons.

(Continued on page 54)

LOCKWOOD'S DIRECTORY

OF THE PAPER AND ALLIED TRADES

1932 EDITION

CORRECTED UP-TO-DATE

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Entire contents classified under separate headings for the United States and Canada, alphabetically and geographically arranged by states.

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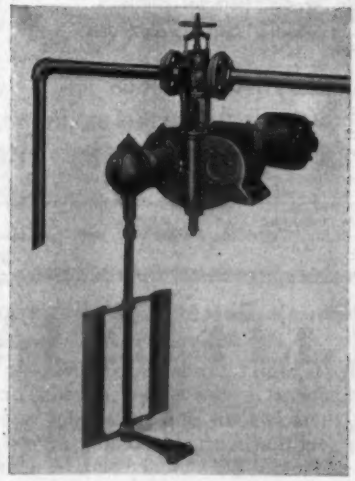

NAME	STOCK
S. D. Warren Company, Cumberland Mills, Maine	Soda Pulp
Munroe Paper Company, Lawrence, Massachusetts	Kraft
Parker-Young Company, Lincoln, New Hampshire	Sulfite, ground wood
Whiting-Plover Paper Co., Stevens Point, Wis.	Rag, Sulfite
Eastern Mfg. Company, Lincoln, Maine	Sulfite bonds
L. L. Brown Paper Co., Adams, Massachusetts	Rag bonds
Champion International Co., Lawrence, Mass.	Coating paper
Philip Carey Mfg. Company, Lockland, Ohio	Asbestos
Wood Conversion Company, Cloquet, Minnesota	Wall board
The Upson Company, Lockport, New York	Fiber boards
Hollingsworth & Vose, W. Groton, Massachusetts	Rope, jute
Ball Brothers Company, Muncie, Indiana	Container board
Eaiscek Mfg. Company, Turners Falls, Mass.	Rag, onion skins
Peter J. Schweitzer Co., Elizabeth, New Jersey	Condenser cigarette

MERRITT
ENGINEERING & SALES CO.
LOCKPORT,
N. Y.

Imports of Paper and Paper Stock

(Continued from page 52)

PORTLAND IMPORTS

WEEK ENDING JANUARY 16, 1932

Pagel, Horton & Co., Inc., Malmen, Ornskoldsvik, 3000 bls. sulphite.
Brown Bros., Harriman & Co., Malmen, Ornskoldsvik, 1800 bls. wood pulp.
Waterfalls Papermills Co., Clara, Trieste, 5210 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING JANUARY 16, 1932

Atterbury Bros., Inc., Carlsholm, Gothenburg, 300 bls. sulphite.
J. Andersen & Co., Carlsholm, Gothenburg, 750 bls. wood pulp; 2000 bls. sulphite.
Johaneson, Wales & Sparre, Inc., Carlsholm, Gothenburg, 299 bls. kraft soda pulp; 250 bls. sulphite.
C. H. Powell & Co., Carlsholm, Gothenburg, 245 bls. wood pulp.
Perkins, Goodwin & Co., Calsholm, Gothenburg, 2540 bls. kraft pulp; 660 bls. sulphate.
Pagel, Horton & Co., Inc., Malmen, Sweden, 3750 bls. sulphite.
——, Malmen, Sweden, 5814 bls. chemical pulp.
——, Malmen, Sweden, 125 bls. kraft pulp.
——, Malmen, Sweden, 1600 bls. sulphite.
——, Malmen, Sweden, 500 bls. sulphate.
International Purchasing Co., Marengo, Hull, 166 coils old rope.

PHILADELPHIA IMPORTS

WEEK ENDING JANUARY 16, 1932

Gilman Paper Co., Ragnhildsholm, Norrkoping, 761 rolls news print.
Stora Kopparberg Corp., Ragnhildsholm, Skutskar, 3775 bls. wood pulp.
Perkins, Goodwin & Co., Ragnhildsholm, Wifstavarf, 2500 bls. sulphate; 1750 bls. sulphite.
J. Andersen & Co., Carlsholm, Gothenburg, 500 bls. wood pulp.
Perkins, Goodwin & Co., Carlsholm, Gothenburg, 1016 bls. sulphate; 381 bls. sulphite; 127 bls. kraft pulp.
Katzenstein & Keene, Inc., Schodack, Havre, 96 bls. rags.
Katzenstein & Keene, Inc., Schodack, Dunkirk, 279 bls. rags.
J. M. Hagy Waste Works, Schodack, Dunkirk, 69 bls. rags.
E. J. Keller Co., Inc., Extavia, ——, 91 bls. rags.
E. J. Keller Co., Inc., Natirar, ——, 339 bls. wood pulp.
Lagerloef Trading Co., Sagoporack, Kotka, 1040 bls. wood pulp, 208 tons; 270 bls. wood pulp boards, 42 tons; 330 rolls wood pulp boards, 32 tons.
Castle & Overton, Inc., Sagoporack, Kotka, 3807 bls. sulphite, 758 tons.
——, Sagoporack, Kotka, 3600 bls. sulphate, 720 tons.
——, Sagoporack, Kotka, 8262 bls. sulphite, 1483 tons.
——, Sagoporack, Kotka, 77 rolls news print.
Lancaster News, Sagoporack, Kotka, 53 rolls news print.

CAMDEN IMPORTS

WEEK ENDING JANUARY 16, 1932

——, Sagoporack, Kotka, 8838 bls. sulphate, 1475 tons.

BALTIMORE IMPORTS

WEEK ENDING JANUARY 16, 1932

E. Butterworth & Co., Inc., Sacandaga, Antwerp, 65 bls. bagging.
Johaneson, Wales & Sparre, Inc., Carlsholm, Gothenburg, 300 bls. sulphate.
J. Andersen & Co., Carlsholm, Gothenburg, 2500 bls. chemical pulp.
Gottesman & Co., Inc., Carlsholm, Gothenburg, 1400 bls. sulphite.
Russell McCandless, Carlsholm, Gothenburg, 300 bls. sulphite.
D. M. Hicks, Inc., Carlsholm, Gothenburg, 150 bls. wood pulp.
The Borregaard Co., Inc., Carlsholm, Gothenburg, 300 bls. wood pulp.
Parsons & Whittemore, Inc., Donau, Bremen, 170 bls. wood pulp.
Union Trust Co., Donau, Bremen, 28 bls. rags.
——, Donau, Hamburg, 1200 bls. wood pulp.
Parsons & Whittemore, Inc., Donau, Hamburg, 167 rolls news print.
Castle & Overton, Inc., Donau, Hamburg, 350 bls. wood pulp.

NEWPORT NEWS IMPORTS

WEEK ENDING JANUARY 16, 1932

Bulkley, Dunton & Co., Elise Schulte, ——, 7750 bls. wood pulp, 1550 tons.
Johaneson, Wales & Sparre, Inc., Elise Schulte, Sundsvall, 6000 bls. sulphite, 1219 tons.

LOS ANGELES IMPORTS

WEEK ENDING JANUARY 16, 1932

California Fruit Wrapping Mills, Inc., Donau, Bremen, 3300 bls. sulphite cellulose.
Lagerloef Trading Co., Donau, Bremen, 62 bls. wood pulp boards.

SAN FRANCISCO IMPORTS

WEEK ENDING JANUARY 16, 1932

——, Donau, Hamburg, 1225 bls. sulphate.
Fibreboard Products, Inc., Donau, Hamburg, 1100 bls. wood pulp.
Jay Madden Corp., Donau, Bremen, 234 rolls news print.

VANCOUVER IMPORTS

WEEK ENDING JANUARY 16, 1932

Turnbull Bros., Donau, Hamburg, 17 rolls wrapping paper.

Outlook Better in Indianapolis

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., January 18, 1932—In spite of the fact that business in the paper market here continues rather light, there is some optimism from various quarters. The jobbers feel that with the coming of spring there will be a better demand. This state has had no winter as yet and this is held accountable for a certain lassitude in demand.

Th jobbers are buying only just what is necessary and nothing is seen now that would indicate a change of attitude. They say the consumer is doing the same thing and they can't be expected to keep an abundance of stocks when there is no call but for small orders. At that the credit condition is fair. One reason, it is explained, is that an increasing number of the smaller consumers is paying cash on delivery thus obviating some bookkeeping on the part of the jobbers.

Reports from the container manufacturers are encouraging. The last year showed a volume equal to 1930 and will compare favorably even with 1929. Reductions in price brought down the money volume, but this has been the rule in the entire industry.

Jobbers of book papers are encouraged with the announcement that one of the large publishing houses here just received a school book contract calling for many cars of school books for the Florida schools.

Most of the county printing contracts of the state either have been let or will be let shortly and the successful printers are beginning to make inquiries concerning their paper stocks. Much of this work will be distributed over the year, but much will be wanted immediately because of changes in county officers.

The paper stock market continues in the doldrums. There likely will be a better demand for building papers in this section than last year, judging from expressions of jobbers. A convention of builders here last week showed far more remodeling and building will be started this year than last.

Buy Paper Products Co.

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., January 18, 1932—Officials of the Indiana Fibre Products Company of Marion, Ind., have announced the purchase of the Paramount Paper Products Company plant in the northeast section of this city. George A. Bell, president of the Indiana Fibre Products Company said the local plant and equipment would be moved at once to Marion and added to the plant there.

The local plant's products consist of paper sundae and soda fountain cups and has a wide demand. The Marion company will add these to its own products which consist of corrugated shipping cases, pie plates, paper plates, etc. The general manager of the Indiana Fibre company is F. E. Shrock. The company has been operating steadily and with increasing volume of merchandise manufactured and day and night schedules.

President Bell said the removal would take place at once. Mr. Bell has just returned from a trip through the East and is optimistic concerning the future of the paper business this year, particularly the specialties made from paper.

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New York Market Review

Office of the PAPER TRADE JOURNAL.
Wednesday, January 20, 1932.

Conditions in the local paper market are gradually improving. One of the most encouraging factors of late has been the stronger undertone of kraft wrapping paper, and the increased price reported, which is expected to have a beneficial effect on other grades of paper. Sales forces of the leading paper organizations have been much encouraged and are looking forward with more confidence to the future.

The position of the news print market is practically unchanged. Production in the United States and Canada during December was 259,034 tons and shipments 258,567 tons, according to information gathered by the News Print Service Bureau. Stocks at the mills at the end of December totalled 86,923 tons, which was equivalent to 4.8 days' average output.

Now that inventory period has ended, the paper board market is becoming more active and demand for box board is fairly persistent. Some improvement was noticed in the fine paper market. Book paper is firmer and in better request than for some time past. Tissues are going forward in satisfactory volume for the season.

Mechanical Pulp

The ground wood market is rather quiet at present. Prices of domestic ground wood pulp are easier. No. 1 domestic mechanical pulp is now offered at from $20 to $28 per ton, f.o.b. mill. No. 1 imported mechanical pulp is still quoted at from $22 to $24 per ton, on dock, Atlantic ports.

Chemical Pulp

No radical changes were reported in the chemical pulp market. Demand for the various grades of domestic and imported chemical pulp is fairly active. Imported bleached sulphite pulp, however, is easier, and is now offered at from $2 to $3 per 100 pounds, on dock, Atlantic ports. Quotations on other grades are unaltered.

Old Rope and Bagging

The old rope market continues dull. Paper mill demand for both domestic and imported old manila rope is decidedly restricted at present. Small mixed rope is only moving slowly. Prices are nominal. The bagging market is listless. Scrap and gunny are showing signs of weakness. Roofing bagging is moderately active.

Rags

Although the prevailing demand for domestic rags is light, some improvement is anticipated in the near future, with the holidays and the inventory period out of the way. Paper mill interest in cotton cuttings is lacking at present. Roofing grades are moderately active. The imported rag market continues dull and prices are easier.

Waste Paper

The paper stock market is displaying a fairly steady trend, although trading is not particularly active. Board mill request for the lower grades should expand materially in the near future, following the usual seasonal lull. The better grades of waste paper are holding up well, particularly book stock, which is in persistent request.

Twine

Most of the business transacted in the local twine market during the past week was along routine lines. While demand is only moderately active, there are some inquiries for future needs around which may materialize into good orders. Prices are generally unchanged.

Boston Paper Market More Active

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., January 18, 1932—Conditions in the wholesale paper trade here have continued to improve generally. The volume of orders for fine paper has been sustained as a whole and in some cases an increase is noted. With a more encouraging tone in various other industries, coupled with cheerful statements from financial houses and a better banking situation, the sentiment among paper men is better. There has been a fair demand for bonds and ledgers. Printers have continued to place orders in fairly substantial volume. Demand for box papers has improved. In the wrapping paper division orders have been coming in heavily to some dealers. At least one house is very enthusiastic over the advance in kraft, the No. 2 grade now being quoted at .03¼ @ .03½, against a former price of .03, and Southern kraft at .03¼ @ .03½, against a previous price of .03. It is felt that the advance in kraft will stimulate considerable buying.

Box board demand and inquiry continue to improve. One box board mill reports the best week for a long time. The slight increase in the demand for shoes has been reflected in the call for boards for the manufacture of shoe cartons. While in some cases buying is not so lively as might be desired, it is stated that consumers have more confidence and are purchasing more freely than formerly. There is a fair volume of orders for specialties.

Paper stock continues quiet, with a downward trend as a whole. With conditions in box board improving, however, it is natural to expect a betterment in prices and demand for material eventually. Several grades of bagging, and new and old domestic rags have shown further declines.

New Pneumatic Conveying Booklet

Brady Conveyors Corporation, of 20 West Jackson Boulevard, Chicago, have just completed a new 12-page catalog, entitled "Pneumatic Conveying," which is now off the press ready for mailing. This book has numerous illustrations showing how various loose flowing bulk materials are unloded as well as loaded into railroad cars and boats handling such materials as coal, lime, ashes, soda ash, alum, china clay and all kinds of grains, etc.

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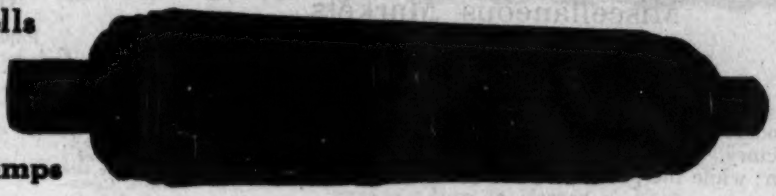

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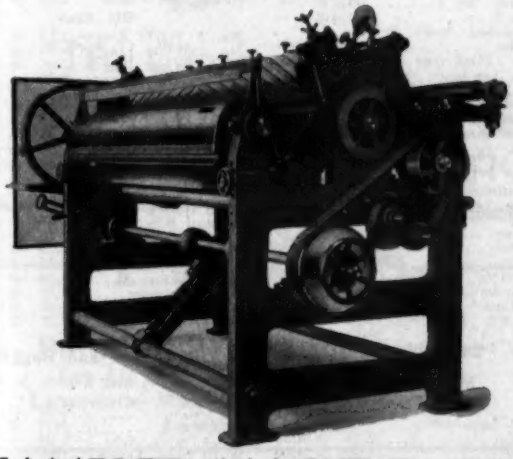

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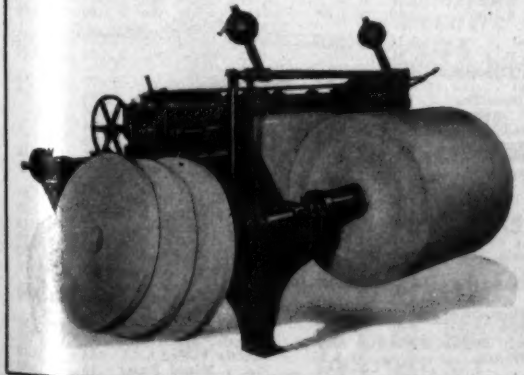

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Manufacturers of
AUTOMATIC MACHINERY FOR PAPER BOXES AND ROTARY PAPER CUTTING MACHINERY

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, January 20, 1932.

BLANC FIXE.—Trading in the blanc fixe market is moderately active. The contract movement is fairly satisfactory. The pulp is quoted at from $42.50 to $45 per ton; while the powder is selling at from 3¼ cents to 3⅜ cents per pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market is displaying a steady trend. Contract shipments are going forward in fairly heavy volume. Prices are holding to schedule. Bleaching powder is quoted at from $1.75 to $2 per 100 pounds, in drums, at works.

CASEIN.—The casein market continues quiet. Domestic standard ground is quoted at 7½ cents and finely ground at 8 cents per pound. Argentine standard ground is selling at 8½ cents and finely ground at 9½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market. The contract movement is well up to average. Solid caustic soda is quoted at $2.50 to $2.55; while the flake and ground are selling at $2.90 to $2.95 per 100 pounds, in large drums, at works.

CHINA CLAY.—The position of the china clay market is practically unchanged. Prices are holding to schedule. Imported china clay is quoted at from $11 to $13 per ton; while domestic paper making clay is selling at from $7 to $11 per ton, at mine.

CHLORINE.—Demand for chlorine continues light. Shipments againt contract, however, are moving at a fairly steady pace. Prices are holding to formerly quoted levels. Chlorine is selling at $1.75 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—There were no radical changes in the rosin market. The grades of gum rosin used in the paper mills are quoted at from $3.60 to $4 per 280 pounds, in barrels, at works; while wood rosin is selling at $3.80 per 280 pounds, in barrels, on dock.

SALT CAKE.—Most of the business transacted in the salt cake market was along routine lines. Salt cake is still quoted at from $15 to $16; chrome salt cake at from $12 to $13 per ton, in bulk, at works. Imported salt cake is selling at from $14.50 to $15 per ton, ship side.

SODA ASH.—The soda ash market is exhibiting a fairly strong undertone, although demand at present is rather light. Prices are steady. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1; in bags, $1.25; and in barrels, $1.38.

STARCH.—Some improvement was noticed in the demand for starch. Contract shipments are going forward to the paper mills in satisfactory volume. Special paper making starch is quoted at $2.54, in bags; and at $2.81, in barrels, per 100 pounds, at works.

SULPHATE OF ALUMINA.—The sulphate of alumina market is steady to firm. Supplies are moving into consumption at a normal pace. Commercial grades are quoted at from $1.25 to $1.40; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—Quietness reigns in the sulphur market. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton for any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—The tone of the talc market is sound. Demand from the paper mills is fairly persistent. Prices are steady. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at mine; while imported talc is selling at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	38.00
Bonds	5.00	@	53.25
Index	6.00	@	12.00
Writings—			
Extra Superfine	6.50	@	15.00
Superfine	6.25	@	14.75
Tub sized	4.50	@	7.00
Engine sized	3.00	@	5.00
Book, Cased—			
S. & S. C.	5.25	@	—
M. F.	3.75	@	5.00
Coated and Enamel	6.25	@	9.75
Lithograph	6.75	@	11.25
Tissues—Per Ream—			
White No. 1	.65	@	.70
Anti-Tarnish M. G. only	.65	@	.70
Colored	.70	@	.90
White No. 2	.55	@	.60
Kraft	.65	@	.70
Manila	.55	@	.60
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middies	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.09¾	@	—
No. 2	.11¼	@	—
Bleached, basis 20 lbs.	.11¾	@	—

(Delivered New York)

News, per ton—			
Roll, contract	53.00	@	—
Rolls, spot	53.00	@	—
Sheets	58.00	@	—
Side Runs	38.00	@	42.00
Kraft—			
No. 1 Domestic	4.75	@	6.00
No. 2 Domestic	3.25	@	4.00
Southern	3.25	@	4.00
Imported	6.00	@	7.00
Boards—per ton—			
News	24.00	@	27.50
Straw	34.50	@	45.00
Chip	24.00	@	27.50
Binders' Boards	62.00	@	70.00
Standard 85 Test Liner	32.50	@	37.50
Sgl. Mla. Lt. Chip	32.50	@	37.50

(F. o. b. Mill)

Wood Pulp Boards	70.00	@	80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—			
Moist	22.00	@	24.00
Dry	22.00	@	24.00

(F. o. b. Mill)

No. 1 Domestic	20.00	@	28.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	2.00	@	3.00
Easy Bleaching	1.60	@	1.75
No. 1 strong unbleached	1.50	@	1.75
Mitscherlich unbleached	1.55	@	1.75
No. 2 strong unbleached	1.40	@	1.50
No. 1 Kraft	1.50	@	1.75
No. 2 Kraft	1.40	@	1.50
Sulphate—			
Bleached	2.35	@	2.50

(F. o. b. Pulp Mill)

Sulphite (Domestic)—			
Bleached	2.00	@	4.00
Easy Bleaching	1.75	@	1.90
News	1.50	@	1.65
Mitscherlich	2.40	@	2.55
Kraft (Domestic)	1.60	@	2.75

(Delivered Paper Mills)

Soda Bleached	2.50	@	—

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.50	@	7.00
New White, No. 2	5.50	@	6.00
Silesias No. 1	5.25	@	5.50
New Unbleached	7.00	@	7.50
New Blue Prints	4.00	@	4.50
New Soft Blacks	3.50	@	4.00
Blue Overall	5.00	@	5.25
Fancy	3.00	@	3.50
Washables	2.75	@	3.00
Mixed Khaki Cuttings	3.50	@	4.00
Pink Corset Cuttings	5.00	@	5.50
O. D. Khaki Cuttings	4.50	@	4.75
Men's Corduroy	3.00	@	3.50
New Mixed Blacks	3.00	@	3.25

Old Rags

White, No. 1—			
Repacked	5.25	@	5.75
Miscellaneous	4.25	@	4.75
White, No. 2—			
Repacked	3.00	@	3.50
Miscellaneous	2.30	@	2.50
St. Soiled, White	1.50	@	1.75
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.65	@	1.85
Black Stockings	3.25	@	3.75
Roofing Rags—			
Cloth Strippings	1.25	@	1.30
No. 1	1.25	@	1.30
No. 2	.90	@	1.00
No. 3	.70	@	.80
No. 4	.65	@	.70
No. 5A	.50	@	.60

Foreign Rags

New Rags

New Dark Cuttings	1.40	@	1.50
New Mixed Cuttings	1.60	@	1.75
New Light Silesias	3.40	@	3.50
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	5.50	@	6.00
New White Cuttings	4.75	@	5.00
New Light Oxfords	4.00	@	4.25
New Light Prints	2.00	@	2.25

Old Rags

No. 1 White Linens	5.25	@	5.50
No. 2 White Linens	4.50	@	4.75
No. 3 White Linens	3.25	@	3.75
No. 4 White Linens	1.75	@	2.25
No. 1 White Cotton	4.00	@	4.25
No. 2 White Cotton	3.00	@	3.25
No. 3 White Cotton	2.25	@	2.50
No. 4 White Cotton	1.40	@	1.50
Extra Light Prints	1.90	@	2.10
Ord. Light Prints	1.60	@	1.75
Med. Light Prints	1.40	@	1.55
Dutch Blue Cottons	1.35	@	1.40
French Blue Linens	2.00	@	2.25
German Blue Linens	2.00	@	2.10
German Blue Cottons	1.20	@	1.25
Checks and Blues	1.25	@	1.30
Lindsay Garments	.75	@	.80
Dark Cottons	.70	@	.75
Old Shopperies	.55	@	.60
New Shopperies	.60	@	.65
French Blues	1.25	@	1.30

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.10	@	1.20
Domestic	1.15	@	1.25
Wool Tares, light	1.00	@	1.05
Wool Tares, heavy	1.00	@	1.10
Bright Bagging	1.00	@	1.05
Small Mixed Rope	.90	@	1.00
Manila Rope—			
Foreign	1.50	@	1.60
Domestic	1.50	@	1.75
New Burlap Cut	1.70	@	1.80
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
Hard, white, No. 1	2.55	@	2.75
Hard, white, No. 2	1.90	@	2.00
White envelope cuttings	2.05	@	2.15
Soft, white, No. 1	1.70	@	1.80
Flat Stock—			
Stitchless	.70	@	.80
Overissue Mag.	.70	@	.60
Solid Flat Book	.60	@	.70
Crumped No. 1	.45	@	.50
Solid Book Ledger	1.75	@	1.85
Ledger Stock	.60	@	.70
New B. B. Chips	.20	@	.30
Manilas—			
New Env. Cut	1.75	@	1.85
New Cuttings	1.40	@	1.50
Extra No. 1 old	1.05	@	1.15
Print	.45	@	.50
Bogus Wrapper	.45	@	.50
Container	.25	@	.30
Old Kraft Machine—			
Compressed bales	1.00	@	1.10
News—			
No. 1 White News	1.60	@	1.65
Strictly Overissue	.35	@	.45
Strictly Folded	.25	@	.30
No. 1 Mixed Paper	.15	@	.20
Common Paper			Nominal

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Twines
(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finished Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.13	@	.14
No. 2	.11	@	.12
Tube Rope—			
4-ply and larger	.10¼	@	.11¼
Fine Tube Rope—			
4-ply	.11	@	—
3-ply	.12	@	—
2-ply	.13	@	—
Paper Makers Twine			
Balls	.07	@	—
Box Twine, 2-3 ply	.07	@	.08
Jute Rope	.09	@	.10
Amer. Hemp, 6	.27	@	.29
Java Sisal—			
No. 1 Basis	.10	@	—
No. 2 Basis	.09	@	—
New Zealand Sisal	.10	@	—
Sisal Lath Yarn—			
No. 1	.12	@	.14
No. 2	.10	@	.12
Manila Twine	.23	@	.28

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¼	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manilt	.04	@	.04½
No. 1 Kraft	4.50	@	5.00
Southern Kraft	3.00	@	3.25
No. 2 Kraft	3.00	@	3.25
Wood Tag Boards	.04¼	@	.06½
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.07	@	.07¼
White Tissue	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	57.00	@	—
Sheets	62.00	@	—
Boards, per ton—			
Plain Chip	30.00	@	35.00
Solid News	32.50	@	37.50
Manila Lined Chip	40.00	@	45.00
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	1.75	@	1.85
No. 1 Soft White	1.60	@	1.65
Ledger & Writings	.70	@	.75
Solid Books	.70	@	.75
Blanks	1.30	@	1.35
Krafts	1.15	@	1.25
New Kraft Cuts	1.30	@	1.45
Manila Env. Cuts	1.60	@	1.75
Ex. No. 1 Manila	1.25	@	1.30
Print Manila	.40	@	.45
Overissue News	.40	@	.50
Old Newspapers—			
No. 1	.35	@	.45
No. 2	.30	@	.40
Mixed Papers—			
No. 1	.25	@	.30
No. 2	.25	@	.25
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.09
Manila Sul., No. 1	.03	@	.05
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03¾	@	.04¾
Southern Kraft No. 1	—	@	.04
Southern Kraft No. 2	—	@	.03¾
Common Bogus	.03	@	.04
(Delivered Philadelphia)			
News Print Rolls	58.00	@	62.00
Straw Board	50.00	@	—
News Board	30.00	@	32.00
Chip Board	25.00	@	27.50
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	73.00	@	75.00
No. 2, per ton	63.00	@	65.00
Carload lots	62.00	@	67.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.06	@	.06½
New White, No. 2	.05	@	.05½
Light Silesias	.05	@	.05½
Silesias, No. 1	.06	@	.08
Black Silesias, soft	.05	@	—
New Unbleached	.06	@	.06½
Washable, No. 1	.02½	@	.03
Blue Overall	.05	@	.05½
Cottons—According to grades—			
Washable, No. 2	.02	@	.02½
New Blue	.02	@	.02½
Fancy	.03	@	.03¼
New Black Soft	.03	@	.03½
New Light Seconds	.01¾	@	.02
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O.D.	.04½	@	.05
No. 2 Mixed	.03½	@	.04
Corduroy	.02½	@	.03
New Canvas	.06½	@	.07
New Black Mixed	.03	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	3.50	@	4.00
Miscellaneous	2.25	@	2.75
M. G.	4.50	@	—
Thirds and Blues—			
Miscellaneous	1.25	@	1.50
Repacked	1.75	@	2.00
Black Stockings (Export)	3.80	@	4.00
Roofing Stock—			
Foreign No. 1	1.15	@	1.25
Repacked	.80	@	.90

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	2.25	@	2.50
Sisal Rope	1.25	@	1.50
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.10	@	2.20
No. 2 Hard White	1.75		2.10
No. 1 Soft White	1.50	@	1.70
No. 2 Soft White	1.40	@	1.50
No. 1 Mixed	.45	@	.55
No. 2 Mixed	.40	@	.50
Solid Ledger Stock	1.20	@	1.30
Writing Paper	.60	@	.75
No. 1 Books, heavy	.60	@	—
No. 2 Books, light	Nominal		
No. 1 New Manila	1.25	@	1.50
No. 1 Old Manila	1.00	@	1.25
Print Manila	.45	@	—
Container Manila	.35	@	.40
Old Kraft	.90	@	1.00
Common Paper	.20	@	—
No. 1 Mixed Paper	.15	@	.25
Straw Board, Chip	.25	@	.35
Binders Board, Chip	.25	@	.35
Corrugated Board	.25	@	.35
Overissue News	.40	@	.50
Old Newspaper	.30	@	.35

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05½	@	.11½
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04½	@	.05½
No. 2 Kraft	.03¼	@	.03½
(F. o. b. Boston)			
Southern Kraft	.03¼	@	.03½
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¾
(Delivered New England points)			
News Print, rolls	—	@	56.50
Straw Board, rolls	.009	—	@52.50
Straw Board in Sheets, basis 35s to 70s	—	@	50.00
Filled News Board	27.50	@	30.00
Chip Board	—	@	25.00
Chip Board (Creasing)	27.50	@	30.00
Single Manila Lined Chip	—	@	35.00
Single White, Patent Coated News Board—			
Binder	52.50	@	60.00
Wood Pulp Board	70.00	@	75.00
Binder Boards	67.50	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.75	@	3.50
No. 2 Hard White	2.25	@	2.50
No. 1 Soft White	1.75	@	2.00
No. 2 Mixed	.50	@	.55
No. 1 Mixed	.75	@	.85
Solid Ledger Books	1.75	@	2.00
Overissue Ledger Stock	1.35	@	1.60
Mixed Ledgers	1.15	@	1.30
No. 1 Books, heavy	.65	@	.75
No. 1 Books, light	—	@	.45
Crumpled Stitchless Book Stock	1.00	@	1.25
Manila Env. Cuttings	1.85	@	2.00
No. 1 Old Manila	—	@	1.00
White Blank News	1.40	@	1.50
Kraft No. 1	—	@	.90
Manila	.90	@	1.00
No. 1 Mixed Paper	.17½	@	.20
Print Manila	.40	@	.45
Overissue News	.35	@	.40
Old Newspapers	.22½	@	.27½
Box Board, Chip	.17½	@	.20
Corrugated Boxes	.32½	@	.37½

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.00
Domestic	—	@	1.10
Manila Rope—			
Foreign	1.25	@	1.50
Domestic	—	@	1.50
Transmission Rope	—	@	1.25
Mixed String	.25	@	.35
Jute Rope	—	@	1.00
Jute Carpet Threads	.75	@	.90
Bleachery Burlap	—	@	2.50
Scrap Burlap	—	@	.85
No. 1 Scrap Burlap	—	@	.90
Scrap Sisal	1.15	@	1.25
Scrap Sisal for shredding	—	@	1.25
Wool Tares, heavy	—	@	.90
New Burlap Cutting	1.50	@	1.75
Australian Pouches	—	@	1.50
Heavy Baling Bagging	1.50	@	1.60
Paper Mill Bagging	—	@	.75
Bagging No. 2	.50	@	—
No. 1 Burlap	—	@	3.50

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	—	@	.05¼
New White No. 2	—	@	.04
Silesias No. 1	.04½	@	.05
New Black Silesias	.02½	@	.02¾
New Unbleached	.05½	@	—
Fancy	—	@	.03¼
Washable	—	@	.03½
Cottons—According to grades—			
Blue Overalls	—	@	.05
New Black, soft	.04	@	.04¼
Khaki Cuttings	.03	@	.03½
O. D. Khaki	.04½	@	.05
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	—	@	4.00
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	—	@	1.50
Thirds and Blues—			
Repacked	—	@	.85
Miscellaneous	1.00	@	1.20
Black Stockings	3.25	@	3.50
Roofing Stock—			
No. 1	.48	@	.53
No. 2	.43	@	.48
No. 3	.38	@	.43

Foreign Rags

Dark Cottons	—	@	.60
(F. o. b. Boston)			
New No. 1 White Shirt Cuttings	5.00	@	5.50
Dutch Blues	—	@	1.80
New Checks & Blues	4.00	@	4.50
Old Fustians	1.55	@	1.65
Old Linsey Garments	.65	@	.70

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¾	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.11¼	@	—
No. 2 Colored	.09	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (Carloads)	6.65	@	—
No. 3 M. F. (Carloads)	6.20	@	—
No. 1 S. C. (carloads)	7.15	@	—
No. 3 S. C. (carloads)	6.65	@	—
No. 4 S. C. (carloads)	5.70	@	—
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.50	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.60	@	—
White Wrap	5.10	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.60	@	—
Fiber	5.60	@	—
Kraft, M. F.	5.98	@	—
Kraft No. 2	5.60	@	—
(Delivered Toronto)			
News, per ton—			
Rolls (contract)	56.50	@	57.00
Sheets	61.50	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	50.00	@	—
Sulphite, news grade	44.00	@	—
Sulphite, bleached	62.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.85	@	—
Soft White	2.40	@	—
White Blk. News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	—
Light and Crumpled Book Stock	.80	@	—
Ledgers and Writings	1.00	@	—
Manilas—			
New Manila Cut	1.70	@	—
Printed Manilas	.65	@	—
Kraft	1.75	@	—
News and Scrap—			
Strictly Overissue	.50	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

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PAPER TRADE JOURNAL

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THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

SIXTIETH YEAR

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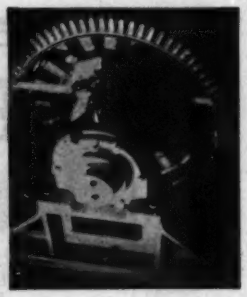

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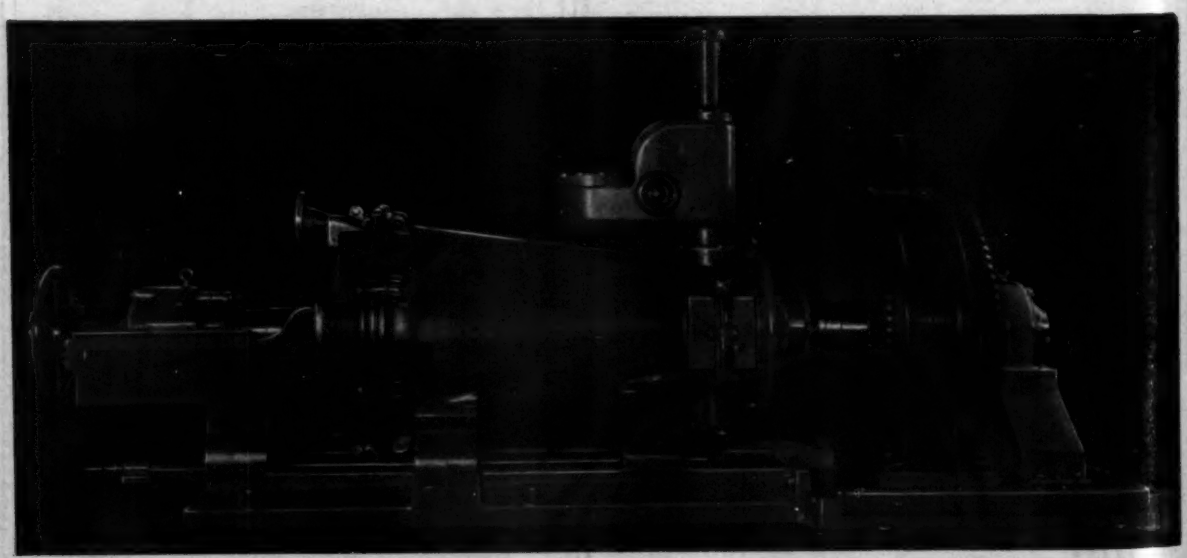

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